Appendix V: Strategic SA of Growth Location Options – Housing & Employment

Key:

Categories of Significance		
Symbol	**Meaning**	**Sustainability Effect**
++	Major Positive	Proposed development encouraged as would resolve existing sustainability problem
+	Minor Positive	No sustainability constraints and proposed development acceptable
0	Neutral	Neutral effect
?	Uncertain	Uncertain or Unknown Effects
-	Minor Negative	Potential sustainability issues: mitigation and/or negotiation possible
--	Major Negative	Problematical and improbable because of known sustainability issues; mitigation likely to be difficult and/or expensive
- **+**	SA Objectives 2, 4, 5, 9 & 11 consider more than one sub-topic such that more than more than one significant effect may be predicted with two symbols. No 2 Communities – first symbol refers to in/out of Green Belt; second symbol refers to community & settlement identities No 4 Employment – first symbol refers to employment support; second symbol refers to vitality/viability of town centres No 5 Health & Equality – first symbol refers to regeneration/deprivation; second symbol refers to Green Infrastructure for health & well-being No 9 Water – first symbol refers to water resources; second symbol relates to water quality No 11 Soil & Land – first symbol refers to greenfield & agricultural land qualities; second symbol relates previously developed land	

Growth Location Options tested through SA:
Strategic[1]: (large scale growth 500-1500 homes; strategic/new settlement scale growth 1500+ homes)
Non-Strategic: (small scale growth <50 homes; medium scale growth 50-500 homes)

HMA[2] Ref Nos	Area A-D	Growth Location Option	Number of Dwellings
N29	B	Arlesey	Up to 2000 homes
N5	C	Aspley Guise	Up to 3000 homes
N17	B	Biggleswade East	Up to 3000 homes
N25 &26	D	Henlow Airfield & Camp	Up to 1000 homes
L20	A	Luton- North	Up to 4000 homes
L24	A	Luton- West	Up to 2000 homes
N6	C	Marston Vale	New settlement up to 5000 homes
N10	B	Tempsford South and Tempsford Airfield	New settlement up to 7000 homes
N9	C	Wixams South	Up to 1000 homes
N/A	A	Dispersal through Villages	Up to 2000 homes
N/A	B	Dispersal through Villages	Up to 2000 homes
N/A	C	Dispersal through Villages	Up to 2000 homes
N/A	D	Dispersal through Villages	Up to 2000 homes

[1] http://www.centralbedfordshire.gov.uk/planning/policy/local-plan/shaping-central-beds-consultation.aspx
[2] N1-Nx LUC for Central Bedfordshire Council North Growth Options Study & L1-Lx Luton Growth Options Study (November 2016)

Growth Location: Arlesey **Number of Dwellings:** up to 2000 homes		
SA Objective	**Assessment of Effects** **Nature of the likely sustainability effect (including positive/negative, short - medium term (5-10 years)/long term (10 - 20 years plus), permanent/temporary, secondary, cumulative and synergistic); Uncertainty**	
1. Housing To ensure that the housing needs of all residents and communities are met	The delivery of up to 2000 new homes can make a significant contribution to achieving the overall housing needs of Central Bedfordshire with the potential for major long-term positive effects. It is assumed that development at the growth location can meet the policy objectives of draft Local Plan policy (Housing Mix) to provide an appropriate mix of housing types, tenures and sizes.	**++**
2. Communities[3] To maintain and enhance community and settlement identities	Development in this area will not result in the loss of any Green Belt land with neutral effects. Housing growth in this broad location will expand the urban area of Arlesey east and contribute to coalescence between Arlesey and Stotfold. It will also expand the urban area south east and contribute to the coalescence of Arlesey and Fairfield. Extant Policy MA8 Arlesey Cross[4] comprises two development sites to the east and west of the High Street allocated for a minimum of 1,000 new homes. The adopted Masterplan includes requirements for new employment space, a new school, other amenities, and environmental improvements. Development in this area will integrate well with the existing urban area of Arlesey but is likely to have indirect negative effects on the identity of the smaller settlement of Fairfield in the south east. The A507 provides a degree of separation between Arlesey and Stotfold. The cumulative effects of the additional 2000 homes to the east will need to be considered at the next stage of planning and assessment, particularly regarding identities of the small settlements to the east and south-east. Neutral effects indicated but some uncertainty remains at this stage of assessment.	**0** **0?**

[3] Please note that first symbol relates to location in/out of Green Belt designation; second symbol relates to effects on integration & identity for existing settlements
[4] http://www.centralbedfordshire.gov.uk/planning/policy/development-briefs/arlesey.aspx

Growth Location: Arlesey **Number of Dwellings:** up to 2000 homes		
3. Services & Facilities To improve accessibility to services and facilities[5]	Development at the growth location is in close proximity to the currently limited services and facilities available within Arlesey, but including the Arlesey Cross proposals for a new central core to provide a focal point and enhance existing facilities in the town. Given the scale of development at the site it is considered that there is also the potential for significant delivery of provisions to support improved accessibility in this area, building upon the Masterplan proposals with the potential for a major long term positive effect against SA Objective 3. This is supported by draft Local Plan policy (Connectivity and Accessibility).	++
4. Employment To support the economy and ensure that there are suitable opportunities for employment	The growth location has been identified for the development of housing and as such is unlikely to lead to any significant effects against this SA Objective, with the potential for a neutral effect. Arlesey is located on a strategic rail connection route which is likely to increase accessibility to employment areas. Development in this location is also likely to support the vitality and viability of local town centres, including Arlesey and Stotfold, with the potential for minor long term positive effects. Arlesey is also well connected to the A1 for access to larger towns along this corridor.	0 +
5. Health & Equality To improve the health and wellbeing of communities and reduce inequalities	The growth location is not in an area of higher deprivation and thus unlikely to lead to any significant effects. The Environmental Framework[6] identifies this area as located within the Ivel River Valley, a priority corridor of the strategic green infrastructure network. The priority corridor is identified as an area where investment and project delivery can make most impact in securing multi-functional green infrastructure. It is considered therefore that development in this area has the potential to support green infrastructure priorities and have major long-term positive effects against SA Objective 5.	0 ++
6. Highways & Air Quality To maintain and improve the existing highway	Early transport modelling[7] identifies that all new potential growth in this area is likely to have an impact on the A1 and cause further congestion and infrastructure improvements are likely to be required. However, this could be mitigated through good access to public transport networks.	0?

[5] This relates to the provision of services and facilities, such as schools, healthcare centres, shops, and hospitality (café, restaurant, pub).
[6] http://www.centralbedfordshire.gov.uk/environment/natural/environmental-framework.aspx
[7] Aecom (2016) Technical Note Stage 1A Growth Area Analysis

Growth Location: Arlesey **Number of Dwellings:** up to 2000 homes		
network and reduce associated indirect impacts on air quality and greenhouse gas emissions	Given the scale of development is it anticipated that development can provide significant infrastructure investment, and mitigation is provided through draft Local Plan policy (Strategic Transport Improvements, Mitigation of Transport Impacts on the Network, Connectivity and Accessibility, Development and Public Transport Interchanges and Low Emission Vehicles) with the potential for a residual neutral effect with an element of uncertainty at this stage. Such further development could enhance the highway proposals in the Arlesey Cross Masterplan with positive synergistic effects. There is no designated AQMA in close distance and therefore, no significant effects on air quality from traffic indicated at this stage.	
7. Sustainable Transport To encourage a demonstrable modal shift and reduce the need to travel	The location is well connected to the existing urban area of Arlesey, which is served by bus services. It is anticipated that growth in this location could accommodate a viable extension to such services which operate in Arlesey (e.g. service number 72, 96, 97 and W7[8]) through appropriate development contributions. The existing eastern urban edge of Arlesey is also located around 1.7 miles from Arlesey Railway Station[9], with the potential for a minor long term positive effect. Arlesey currently has very limited local services and facilities but together with MA8 allocation and this additional 2000 new homes, significant new facilities can be provided therefore reducing the need for residents to travel to other town centres. The Masterplan proposals for Arlesey Cross include a network of pedestrian and cycleways	**+**
8. Energy & Climate Change To maximise the potential for energy efficiency, reduce greenhouse gas emission and ensure that the built and natural environment and its communities withstand the	Given the potential sustainable transport connections identified against SA Objective 7 it is anticipated that development in this growth location can support a continued reduction in GHG emissions, this is further supported by draft Local Plan policy (Connectivity and Accessibility). It is further anticipated that through compliance with draft Local Plan policy (Successful and Sustainable Places,) development could achieve policy targets for energy efficiency, high quality design standards that ensure resilience to the effects of climate change and offer potential opportunities for renewable energy production. Potential for a long term minor positive effect but some uncertainty at this stage.	**+?**

[8] Google Maps https://www.google.co.uk/maps
[9] Google Maps estimated drive time from the High Street to Arlesey Station

Growth Location: Arlesey **Number of Dwellings:** up to 2000 homes		
effects of climate change[10]		
9. Water Resources & Quality To minimise the demand for water and maintain or improve water quality	The Water Cycle Study identifies that this location lies within the Upper Bedford and Ouse catchment, where the main pressure on water resources is the abstraction of water for public supply. Abstraction for consumption is only available for up to 32% of the time and 25% of licenses in the area are time limited and tied to a Common End Date (CED) of March 2028. It is also recognised[11] that one of the most likely effects of climate change to impact upon Central Bedfordshire will be a shortage of water resources. The Ruthamford South Water Resource Zone (WRZ) is predicted to be in supply-demand deficit by 2026/27 as a result of growth and reduced yield. There are no strategic limitations on development growth as Water Companies have a statutory duty to supply water; however, capacity for providing additional supply varies & any new infrastructure requirements have to be aligned with Water Resources Management Plans. The addition of 2000 new homes in this area is therefore considered to have the potential for cumulative effects on water resources but uncertainty until the scale & location is identified and the Water Cycle Study Phase 2 is undertaken. Rivers in the vicinity of the growth location are considered to be in a moderate overall water body class. The majority of watercourses in the Plan area are not currently meeting 'good' classification and the most common reason for this is 'pollution from waste water'. The Water Cycle Study identifies that all WwTWs have some capacity within their existing quality permits to accommodate future development without causing a class of 10% deterioration, however in some settlements the available capacity is quite small, and in some cases development may also require WwTW upgrades. With draft Local Plan Policies on Climate Change & Sustainability, Water Quality and Pollution,	**0**

[10] Please note that Flood Risk is considered by the SA within objective number 10
[11] LDA Design (2012) Central Bedfordshire Climate Change Adaptation Evidence Base Final Report

Growth Location: Arlesey **Number of Dwellings:** up to 2000 homes		
	strong mitigation measures are in place to ensure at least neutral effects on water quality, and ensure that development supports local WRMPs with high water efficiency targets.	
10. Flood Risk To reduce the risk of flooding from all sources	Though there are areas of flood risk within the location option[12], in line with draft Local Plan policy (Flood Risk Management,) it is expected that development would avoid these areas with the potential for a residual neutral effect. Draft Local Plan policy (Successful and Sustainable Places) requires development to maximise opportunities for Sustainable Drainage Systems, where applicable, and there may be possibilities for enhanced effects to help resolve existing flooding problems with the potential for some positive effects but uncertain at this stage of appraisal. Likely residual neutral effects.	**0**
11. Soil To protect and conserve soil	Development in this broad location will predominantly result in the loss of greenfield land with the potential for minor long-term negative effects. To the north and east of Arlesey is Grade 2 agricultural land, and to the south and west the settlement is bordered by Grade 3 (sub-grade 3a or 3 b not known) agricultural land[13]. No best and most versatile agricultural land has been identified within the broad location at this stage[14], however it is recognised that there remains an element of uncertainty in the agricultural land classification until lower level site assessments have been completed. Given that the location is greenfield land, development is unlikely to contain or require remediation for any contaminated land.	**- ?**
12. Biodiversity & Geodiversity To protect, enhance and	There are no internationally designated sites in the land surrounding the broad location, nor is the location within the Nature Improvement Area. There are also no National Nature Reserves or SSSIs around the growth location. There is a Local Nature Reserve (LNR) to the east of the growth	**+**

[12] Environment Agency (2016) Flood Map for Planning
[13] Central Bedfordshire Council GIS layers (2017)
[14] DEFRA (2016) Magic Map Application

Growth Location: Arlesey **Number of Dwellings:** up to 2000 homes		
manage biodiversity & geodiversity	location[15], however the town of Stotfold is located between the growth location and the LNR. There are two County Wildlife Sites (CWS) to the west of the growth location, with Lowland Meadow Priority Habitat, Semi-Improved Grassland Priority Habitat and Deciduous Woodland Priority Habitat in the same location[16]. However, the town of Arlesey is between the growth location and the CWSs and Priority Habitats. There are 3 small blocks of Deciduous Woodland Priority Habitat to the east/north-east of the growth location, with the closest being just under half a mile away[17]. However, these areas of Priority Habitat are located on the other side of the A507. The growth location is not located within the biodiversity network, which instead follows the path of the River Purwell on the other side of Arlesey to the west of the growth location. Overall, due to the lack of designated sites close to the location, and existing development existing between any Priority Habitat and the growth location, no negative effects are likely to occur. Development in this growth location could contribute to the improvement of the biodiversity network. The creation of new habitats and ecological corridors could help connect Priority Habitats to the east of the location with CWS and Priority Habitats to the west of the broad location, creating safe paths for local wildlife. Existing rural pathways in and around the growth location should be maintained and possibly enhanced to allow future residents to have access to open green space, with minor positive benefits for the health of residents. These enhancements would help meet the aims of the Central Bedfordshire Nature Conservation Strategy[18] and the Central Bedfordshire Environmental Framework[19]. This could complement and enhance the green and blue infrastructure requirements with the Arlesey Cross Masterplan for synergistic and cumulative positive effects. Overall potential for long-term minor positive effects.	
13. Landscape Protect and enhance the landscape and townscape	This growth location is not within or adjacent to the designated AONB landscape. The broad location is within the East Anglian Chalk National Character Area, and the statements of environmental opportunity identify the need to conserve the groundwater resource and secure sustainable water use (SA Objective 9 identifies the available mitigation) and to create or enhance green infrastructure in relation to the urban fringe and growth areas. There are	**+?**

[15] DEFRA (2016) Magic Map Application
[16] Ibid.
[17] Ibid.
[18] Central Bedfordshire Council (2015) Central Bedfordshire Nature Conservation Strategy
[19] Central Bedfordshire Council (no date) Environmental Framework

Growth Location: Arlesey **Number of Dwellings:** up to 2000 homes		
	significant views from Arlesey to Fairfield (and please see SA objective No 2 previously about coalescence). Development in this location has the potential to support the objectives of this landscape area, and minor long term positive effects but uncertain at this stage.	
14. Historic Environment To ensure the protection and enhancement of heritage assets, the historic environment and its setting	There are 2 Archaeological Notification Areas within the location[20], in which development (according with draft Local Plan Policy Archaeology) could contribute to investigating and recording heritage assets of archaeological significance. The broad location does not contain any designated heritage assets; however, it is located in close proximity to Listed Buildings in both Arlesey and Fairfield. Given the scale of development at this location it is likely to affect the open countryside setting in between these two areas, and design will be required to respond to differing heritage settings in the south east and west. Mitigation is provided through draft Local Plan policy (Built Heritage) which should ensure development does not lead to any significant effects on the settings of the Listed Buildings, with the potential for a residual neutral effect. There remains an element of uncertainty until site level assessments have been completed.	**0?**

Growth Location: Aspley Guise **Number of Dwellings:** up to 3000 homes		
SA Objective	**Assessment of Effects** **Nature of the likely sustainability effect (including positive/negative, short - medium term (5-10 years)/long term (10 - 20 years plus), permanent/temporary, secondary, cumulative and synergistic); Uncertainty**	
1. Housing To ensure that the housing needs of all residents and	The delivery of up to 3000 new homes can make a significant contribution to achieving the overall housing needs of Central Bedfordshire with the potential for major long-term positive effects.	**++**

[20] Central Bedfordshire Council GIS Map Layers

Growth Location: Aspley Guise **Number of Dwellings:** up to 3000 homes		
communities are met	It is assumed that development at the growth location can meet the policy objectives of draft Local Plan policy (Housing Mix) to provide an appropriate mix of housing types, tenures and sizes.	
2. Communities[21] To maintain and enhance community and settlement identities	Housing growth in this broad location will expand the urban area of Aspley Guise north and is unlikely to contribute to coalescence given the existing barrier of the M1 motorway; locating new development to the north should avoid potential coalescence with Milton Keynes to the west. Development in this area will not result in the loss of any Green Belt land with neutral effects. The expansion north of the settlement however is less likely to effectively integrate given the existing railway line providing a barrier for movement and connection with the existing urban form. Development in this area would require significant infrastructure investment to overcome this barrier, although the scale of the potential development could support this. Overall, it is therefore considered to have the potential for a minor long-term negative effect with some uncertainty at this stage of assessment.	**0** **-?**
3. Services & Facilities To improve accessibility to services and facilities[22]	Development at the growth location is in close proximity to services and facilities available within Aspley Guise and Milton Keynes. Given the scale of development at the site it is considered that there is also the potential for significant provisions to support improved accessibility in this area, with the potential for a major long term positive effect against SA Objective 3. This is supported by draft Local Plan policy (Connectivity and Accessibility).	**++**
4. Employment To support the economy and ensure that there are suitable opportunities for employment	The growth location has been identified for the development of housing and as such is unlikely to lead to any significant effects against this SA Objective, with the potential for a neutral effect. The location is in close proximity to Milton Keynes as a major employment source for Central Bedfordshire and is connected by rail to this area which is likely to increase accessibility to employment areas in this respect. The area is also well connected to J13 on the M1 for employment, and the proposed Ridgmont station for the East-West Link. Development in this location could also support the vitality and viability of local town centres, including Woburn Sands and Milton Keynes, with the potential for minor long term and cross-boundary positive effects.	**0** **+**

[21] Please note that first symbol relates to location in/out of Green Belt designation; second symbol relates to effects on integration & identity for existing settlements
[22] This relates to the provision of services and facilities, such as schools, healthcare centres, shops, and hospitality (café, restaurant, pub).

Growth Location: Aspley Guise **Number of Dwellings:** up to 3000 homes		
5. Health & Equality To improve the health and wellbeing of communities and reduce inequalities	The growth location is not in an area of higher deprivation and thus unlikely to lead to any significant effects. The Environmental Framework[23] identifies this area as located within Marston Vale, a priority corridor of the strategic green infrastructure network. The priority corridor is identified as an area where investment and project delivery can make most impact in securing multi-functional green infrastructure. It is considered therefore that development in this area has the potential to support green infrastructure priorities and have major long-term positive effects against SA Objective 5.	**0** **++**
6. Highways & Air Quality To maintain and improve the existing highway network and reduce associated indirect impacts on air quality and greenhouse gas emissions	Early transport modelling[24] identifies that infrastructure improvements would be crucial given the level of stress on the strategic routes in this area. However, any expected increase in traffic could be mitigated through good access to public transport networks. Given the scale of development is it anticipated that development can provide significant infrastructure investment, and mitigation is provided through draft Local Plan policy (Strategic Transport Improvements, Mitigation of Transport Impacts on the Network, Connectivity and Accessibility, Development and Public Transport Interchanges and Low Emission Vehicles) with the potential for a residual neutral effect with an element of uncertainty at this stage. There is no designated AQMA in close distance and therefore, no significant effects on air quality from traffic indicated at this stage.	**0?**
7. Sustainable Transport To encourage a demonstrable modal shift and reduce the need to travel	The location is separated from the urban area of Aspley Guise by the existing railway line, however the area could connect well with Aspley Guise station and the bus service connections here in the west of the broad location, with the potential for minor long term positive effects. It will also have good access to the proposed EWR station at Ridgmont.	**+**
8. Energy & Climate Change To maximise the potential	Given the potential sustainable transport connections identified against SA Objective 7 it is anticipated that development in this growth location can support a continued reduction in GHG emissions, this is further supported by draft Local Plan policy (Connectivity and Accessibility).	**+?**

[23] http://www.centralbedfordshire.gov.uk/environment/natural/environmental-framework.aspx
[24] Aecom (2016) Technical Note Stage 1A Growth Area Analysis

Growth Location: Aspley Guise **Number of Dwellings:** up to 3000 homes		
for energy efficiency, reduce greenhouse gas emission and ensure that the built and natural environment and its communities withstand the effects of climate change[25]	It is further anticipated that through compliance with draft Local Plan policy (Successful and Sustainable Places,) development could achieve policy targets for energy efficiency, high quality design standards that ensure resilience to the effects of climate change and offer potential opportunities for renewable energy production. Potential for a long term minor positive effect but some uncertainty at this stage.	
9. Water Resources & Quality To minimise the demand for water and maintain or improve water quality	The Water Cycle Study identifies that this location lies within the Upper Bedford and Ouse catchment, where the main pressure on water resources is the abstraction of water for public supply. Abstraction for consumption is only available for up to 32% of the time and 25% of licenses in the area are time limited and tied to a Common End Date (CED) of March 2028. It is also recognised[26] that one of the most likely effects of climate change to impact upon Central Bedfordshire will be a shortage of water resources. The Ruthamford South Water Resource Zone (WRZ) is predicted to be in supply-demand deficit by 2026/27 as a result of growth and reduced yield. There are no strategic limitations on development growth as Water Companies have a statutory duty to supply water; however, capacity for providing additional supply varies & any new infrastructure requirements have to be aligned with Water Resources Management Plans. The addition of 3000 new homes in this area is therefore considered to have the potential for cumulative effects on water resources but uncertainty until the scale & location is identified and the Water Cycle Study Phase 2 is undertaken. Rivers in the vicinity of the growth location are considered to be in a moderate overall water body class. The majority of watercourses in the Plan area are not currently meeting 'good' classification and the most common reason for this is 'pollution from waste water'. The Water Cycle Study identifies that all WwTWs have some capacity within their existing quality permits to accommodate future development without causing a class of 10% deterioration, however in some settlements the available capacity is quite small, and in some cases development may also require WwTW	**0**

[25] Please note that Flood Risk is considered by the SA within objective number 10
[26] LDA Design (2012) Central Bedfordshire Climate Change Adaptation Evidence Base Final Report

Growth Location: Aspley Guise **Number of Dwellings:** up to 3000 homes		
	upgrades With draft Local Plan Policies on Climate Change & Sustainability, Water Quality and Pollution, strong mitigation measures are in place to ensure at least neutral effects on water quality, and ensure that development supports local WRMPs with high water efficiency targets.	
10. Flood Risk To reduce the risk of flooding from all sources	The growth location is not in an area at risk of flooding from rivers or the sea[27]. Draft Local Plan policy (Successful and Sustainable Places) requires development to maximise opportunities or Sustainable Drainage Systems, where applicable, with the potential for some positive effects. Likely residual neutral effects.	**0**
11. Soil To protect and conserve soil	Development in this broad location will predominantly result in the loss of greenfield land with the potential for minor long-term negative effects. There is some Grade 3 (sub-grade 3a or 3b not known) best and most versatile agricultural land in the broad growth location[28]. Given that the location is greenfield land, development is unlikely to contain or require remediation for any contaminated land.	**-?**
12. Biodiversity & Geodiversity To protect, enhance and manage biodiversity & geodiversity	There are no internationally designated biodiversity sites in or around the growth location. A SSSI is located south of the broad location[29], however there is existing development between the growth location and the SSSI and a residual neutral effect is therefore likely. There are two small County Wildlife Sites (CWS) to the south of the settlement[30]. There are also Priority Habitats in the land surrounding the broad growth location, which includes Semi-Improved Grassland, Lowland Meadows, Woodpasture & Parkland and Deciduous Woodland[31]. The broad growth location and the surrounding land is also located in the biodiversity network. Development in this location therefore has the potential to cause fragmentation of existing Priority Habitats, with the potential loss of ecological corridors and disturbance to the biodiversity network which is in the area. However, mitigation is provided through draft Local Plan policy (Nature Conservation) which seeks to ensure that development does not adversely affect designated sites, and draft Local Plan	**+**

[27] Environment Agency (2016) Flood Map for Planning
[28] Central Bedfordshire Council GIS layers (2017)
[29] DEFRA (2016) Magic Map Application
[30] Ibid.
[31] Ibid.

Growth Location: Aspley Guise **Number of Dwellings:** up to 3000 homes		
	policy (Enhancing Ecological Networks) further seeks to ensure that development positively contributes to biodiversity. There are opportunities for enhancement of the biodiversity network in the local area. There are opportunities to create new habitats along the railway line embankments to the south of the broad location, linking in with the biodiversity network. The Greensand Ridge Nature Improvement Area (NIA) is also located a short distance directly to the south of the growth location. Enhancing connections between the two CWSs and Priority Habitats with the NIA through new ecological corridors and biodiversity network improvements would result in benefits for both areas. The creation of new habitat sites in and around the broad growth location would also help improve the local biodiversity network. The existing rural footpaths in the broad growth location should also be maintained, as they allow existing residents access to open green space as well as connecting local settlements. The creation of the Bedford & Milton Keynes Waterway, which will pass to the north of Aspley Guise, will provide enhancement to the local biodiversity and GI networks, providing blue and green corridors which will allow wildlife movement, and creating new habitats, with biodiversity gains. These enhancements would help meet the aims of the Central Bedfordshire Nature Conservation Strategy[32] and the Central Bedfordshire Environmental Framework[33]. Overall there is the potential for long-term minor positive effects	
13. Landscape Protect and enhance the landscape and townscape	This growth location is not located adjacent to or within the designated AONB landscape. The broad location is within the Bedfordshire and Cambridgeshire Claylands National Character Area, and the statements of environmental opportunity identify the potential to create high quality green infrastructure (identified against SA Objective 5) and landscape regeneration in new development and the need to protect the aquifers and quality of the River Great Ouse. Development in this broad location is considered overall to support these objectives with the potential for minor long term positive effects against SA Objective 13.	**+**

[32] Central Bedfordshire Council (2015) Central Bedfordshire Nature Conservation Strategy
[33] Central Bedfordshire Council (no date) Environmental Framework

Growth Location: Aspley Guise **Number of Dwellings:** up to 3000 homes		
14. Historic Environment To ensure the protection and enhancement of heritage assets, the historic environment and its setting	There are 3 small Archaeological Notification Areas within the location[34], in which development (according with draft Local Plan Policy Archaeology) could contribute to investigating and recording heritage assets of archaeological significance. The broad location is located in close proximity to Listed Buildings in both Aspley Guise and Wavendon, as well as Conservation Areas in Aspley Guise and Husborne Crawley to the south. Given the scale of development at this location it is likely to affect the open countryside setting in between these two areas, and design will be required to respond to differing heritage settings in the south and west. Mitigation is provided through draft Local Plan Policy (Built Heritage) which should ensure development does not lead to any significant effects on the settings of the Listed Buildings and the Conservation Areas with neutral effects but some uncertainty at this stage until lower level assessments have been completed.	**0?**

Growth Location: Biggleswade East **Number of Dwellings:** up to 3000 homes		
SA Objective	**Assessment of Effects** **Nature of the likely sustainability effect (including positive/negative, short - medium term (5-10 years)/long term (10 - 20 years plus), permanent/temporary, secondary, cumulative and synergistic); Uncertainty**	
1. Housing To ensure that the housing needs of all	The delivery of up to 3000 new homes can make a significant contribution to achieving the overall housing needs of Central Bedfordshire with the potential for major long-term positive effects. It is assumed that development at the growth location can meet the policy objectives of draft Local Plan	**++**

[34] Central Bedfordshire Council GIS Map Layers

Growth Location: Biggleswade East **Number of Dwellings:** up to 3000 homes		
residents and communities are met	policy (Housing Mix) to provide an appropriate mix of housing types, tenures and sizes.	
2. Communities[35] To maintain and enhance community and settlement identities	Housing growth in this broad location will expand the urban area of Biggleswade to the east and decrease the open land between Biggleswade and Dunton. This is however unlikely to significantly contribute towards coalescence of these settlements. There is the potential for coalescence with Sutton to the north-east and mitigation measures (physical separation and significant soft landscaping) would be required. Likely residual neutral effects but some uncertainty remains at this stage of assessment until precise locational details confirm the effectiveness of mitigation possibilities. Development in this area will not result in the loss of any Green Belt land. Development in this area could integrate well with the existing urban area of Biggleswade and support community identity. Overall, it is considered to have the potential for minor long-term cumulative positive effects.	**0?** **+**
3. Services & Facilities To improve accessibility to services and facilities[36]	Development at the growth option is in close proximity to services and facilities available within Biggleswade. Given the scale of development at the site it is considered that there is also the potential for significant provisions to support improved accessibility in this area, with the potential for a major long term positive effects. This is supported by draft Local Plan policy (Connectivity and Accessibility).	**++**
4. Employment To support the economy and ensure that there are suitable opportunities for employment	The growth location has been identified for the development of housing and as such is unlikely to lead to any significant effects against this SA Objective, with the potential for a neutral effect. However, the option is located on a strategic rail connection route which is likely to increase accessibility to employment areas. Development in this location may also support the vitality and viability of Biggleswade town centre, with the potential for minor long term positive effects.	**0** **+**

[35] Please note that first symbol relates to location in/out of Green Belt designation; second symbol relates to effects on integration & identity for existing settlements
[36] This relates to the provision of services and facilities, such as schools, healthcare centres, shops, and hospitality (café, restaurant, pub).

Growth Location: Biggleswade East **Number of Dwellings:** up to 3000 homes			
5. Health & Equality To improve the health and wellbeing of communities and reduce inequalities	The growth location is not in an area of higher deprivation and thus unlikely to lead to any significant effects. The Environmental Framework[37] identifies this area as located within the Ivel River Valley, a priority corridor of the strategic green infrastructure network. The priority corridor is identified as an area where investment and project delivery can make most impact in securing multi-functional green infrastructure. This will also support the objectives of the Bedfordshire and Cambridgeshire Claylands National Character Area (see SA Objective 13). It is considered therefore that development in this area has the potential to support green infrastructure priorities and have major long-term positive effects against SA Objective 5.	**0**	**++**
6. Highways & Air Quality To maintain and improve the existing highway network and reduce associated indirect impacts on air quality and greenhouse gas emissions	Early transport modelling[38] identifies that all new potential growth in this area is likely to have negative effects on the A1 and cause further congestion such that infrastructure improvements are likely to be required. This could be mitigated to a degree by good access to public transport networks. However, Improvements to the existing A1 junctions at Biggleswade will be required to mitigate congestion on the A1. Potential strategic scale growth in this location is also likely to have negative effects on the local road network, with particular concerns in relation to routes through Biggleswade towards the A1. It is considered that significant highway improvements will be required to mitigate such effects. Given the scale of development is it anticipated that development can provide significant infrastructure investment, and mitigation is provided through draft Local Plan policy (Strategic Transport Improvements, Mitigation of Transport Impacts on the Network, Connectivity and Accessibility, Development and Public Transport Interchanges and Low Emission Vehicles) with the potential for a residual neutral effect with an element of uncertainty and minor negative effects at this stage until further transport impact studies and more details for mitigation measures.	**-?**	

[37] http://www.centralbedfordshire.gov.uk/environment/natural/environmental-framework.aspx
[38] Aecom (2016) Technical Note Stage 1A Growth Area Analysis

Growth Location: Biggleswade East **Number of Dwellings:** up to 3000 homes		
	There is an AQMA in Sandy[39]. However, the broad area option is located some distance from this such that mitigation measures should be effective with likely neutral effects.	
7. Sustainable Transport To encourage a demonstrable modal shift and reduce the need to travel	The location could be well connected to the existing urban area of Biggleswade, which is well-served by bus services. It is anticipated that growth in this location could accommodate a viable extension to such services which operate in the eastern area of Biggleswade (e.g. service number 85, 85A, 188 and W3[40]) through appropriate development contributions. The existing eastern urban edge of Biggleswade is also located less than 1.5 miles from Biggleswade Station[41], with the potential for a minor long term positive effect. Walking routes and cycleways could be included as part of masterplanning and to enhance the existing network with the potential for synergistic and cumulative positive effects.	+
8. Energy & Climate Change To maximise the potential for energy efficiency, reduce greenhouse gas emission and ensure that the built and natural environment and its communities withstand the effects of climate change[42]	Given the potential sustainable transport connections identified against SA Objective 7 it is anticipated that development in this growth location can support a continued reduction in GHG emissions, this is further supported by draft Local Plan policy (Connectivity and Accessibility). It is further anticipated that through compliance with draft Local Plan policy (Successful and Sustainable Places,) development could achieve policy targets for energy efficiency, high quality design standards that ensure resilience to the effects of climate change and offer potential opportunities for renewable energy production. Potential for a long term minor positive effect but some uncertainty at this stage.	+?
9. Water Resources & Quality	The Water Cycle Study identifies that this location lies within the Upper Bedford and Ouse catchment, where the main pressure on water resources is the abstraction of water for public supply. Abstraction for consumption is only available for up to 32% of the time and 25% of licenses in the area are time limited	0

[39] https://uk-air.defra.gov.uk/aqma/maps
[40] Google Maps
[41] Google Maps estimated drive time from London Road to Biggleswade Station
[42] Please note that Flood Risk is considered by the SA within objective number 10

Growth Location: Biggleswade East **Number of Dwellings:** up to 3000 homes		
To minimise the demand for water and maintain or improve water quality	and tied to a Common End Date (CED) of March 2028. It is also recognised[43] that one of the most likely effects of climate change to impact upon Central Bedfordshire will be a shortage of water resources. The Ruthamford South Water Resource Zone (WRZ) is predicted to be in supply-demand deficit by 2026/27 as a result of growth and reduced yield. There are no strategic limitations on development growth as Water Companies have a statutory duty to supply water; however, capacity for providing additional supply varies & any new infrastructure requirements have to be aligned with Water Resources Management Plans. The addition of 3000 new homes in this area is therefore considered to have the potential for cumulative effects on water resources but uncertainty until the scale & location is identified and the Water Cycle Study Phase 2 is undertaken. Rivers in the vicinity of the growth location are considered to be in a moderate overall water body class. The majority of watercourses in the Plan area are not currently meeting 'good' classification and the most common reason for this is 'pollution from waste water'. The Water Cycle Study identifies that all WwTWs have some capacity within their existing quality permits to accommodate future development without causing a class of 10% deterioration, however in some settlements the available capacity is quite small, and in some cases development may also require WwTW upgrades With draft Local Plan Policies on Climate Change & Sustainability, Water Quality and Pollution, strong mitigation measures are in place to ensure at least neutral effects on water quality, and ensure that development supports local WRMPs with high water efficiency targets.	
10. Flood Risk To reduce the risk of flooding from all	Though there are areas of flood risk within the location option[44], in line with draft Local Plan policy (Flood Risk Management) it is expected that development would avoid these areas with the potential for a residual neutral effect.	**0**

[43] LDA Design (2012) Central Bedfordshire Climate Change Adaptation Evidence Base Final Report
[44] Environment Agency (2016) Flood Map for Planning

Growth Location: Biggleswade East **Number of Dwellings:** up to 3000 homes		
sources	Draft Local Plan policy (Successful and Sustainable Places) requires development to maximise opportunities for Sustainable Drainage Systems, where applicable, and there may be possibilities for enhanced effects to help resolve existing flooding problems with the potential for some positive effects but uncertain at this stage of appraisal. Likely residual neutral effects.	
11. Soil To protect and conserve soil	Development in this broad location will result in the loss of greenfield land with the potential for minor long-term negative effects, and is also likely to regenerate areas of previously developed land, particularly in and around Stratton Business Park with the potential for minor long term positive effects – some uncertainty at this stage until further studies are undertaken. There is best and most versatile agricultural land[45] in the north east of the settlement particularly a large area of Grade 2 east of Stratton Upper School and Community College. Development in this area has the potential for major long term negative effects against SA Objective 11. Given that the broad location contains previously developed land there is the potential for contamination constraints. Draft Local Plan policy (Pollution) should ensure that there will be no significant effects on health, and project level mitigation can ensure the appropriate remediation if necessary with the potential for minor positive effects through land restoration.	-? +
12. Biodiversity & Geodiversity To protect, enhance and manage biodiversity & geodiversity	The growth option is not located close to any internationally designated biodiversity sites or located in the Nature Improvement Area. There are no SSSIs within close proximity[46]. Henlow Common and Langford Meadows Local Nature Reserve (LNR) is located to the south-west of the growth location[47]. However, impacts from development are unlikely to affect this site because existing development (Langford) already exists between the growth option and the LNR and there are no ecological corridors between them. The growth location has two County Wildlife Sites (CWS) with some individual areas of Deciduous Woodland Priority Habitat. The northern half of the growth location contains existing biodiversity network, however the south of the growth location and the immediate surrounding land does not have any biodiversity network, but there are additional blocks of Deciduous Woodland Priority Habitat. Mitigation is provided through draft Local Plan policy (Nature Conservation) which seeks to ensure that development does not adversely affect designated sites and draft Local	+

[45] DEFRA (2016) Magic Map Application
[46] DEFRA (2016) Magic Map Application
[47] http://www.centralbedfordshire.gov.uk/environment/natural/environmental-framework.aspx

Growth Location: Biggleswade East **Number of Dwellings:** up to 3000 homes		
	Plan policy (Enhancing Ecological Networks) further seeks to ensure that development positively contributes to biodiversity. Development in this growth location has the potential to provide enhancement to the biodiversity network. Currently there is a lack of biodiversity network in the land around the south of the growth location. However, development could help connect the biodiversity network in the north of the growth location with the biodiversity network to the west of Biggleswade, forming a band of biodiversity network running along the southern border of the settlement. This network could connect the existing blocks of Priority Habitats and provide an ecological corridor to allow safe wildlife movement. These enhancements would help meet the aims of the Central Bedfordshire Nature Conservation Strategy[48] and the Central Bedfordshire Environmental Framework[49]. It is important that the existing CWSs and Priority Habitat blocks are protected, possibly with the use of buffer zones around valuable areas, and future residents should have access to the CWSs with benefits for the health of future residents. There is the potential for long term minor positive effects through the enhancement of and creation of new biodiversity network.	
13. Landscape Protect and enhance the landscape and townscape	This growth location is not located adjacent to or within the designated AONB landscape. The growth location is within the Bedfordshire and Cambridgeshire Claylands National Character Area, and the statements of environmental opportunity identify the potential to create high quality green infrastructure (identified against SA Objective 5) and landscape regeneration in new development and the need to protect the aquifers and quality of the River Great Ouse (SA Objective 9 outlines the available mitigation for such effects). Development in this broad location is considered overall to support these objectives with the potential for minor long term positive effects against SA Objective 13.	**+**
14. Historic Environment To ensure the	There are a number of Archaeological Notification Areas within the location[50], in which development (according with draft Local Plan Policy Archaeology) could contribute to investigating and recording heritage assets of archaeological significance.	**0?**

[48] Central Bedfordshire Council (2015) Central Bedfordshire Nature Conservation Strategy
[49] Central Bedfordshire Council (no date) Environmental Framework
[50] Central Bedfordshire Council GIS Map Layers

Growth Location: Biggleswade East **Number of Dwellings:** up to 3000 homes		
protection and enhancement of heritage assets, the historic environment and its setting	The growth location includes a designated Scheduled Monument; Stratton Park moated enclosure and associated manorial earthworks. Records[51] indicate that the moat is identified with the original medieval manor of Stratton, but was replaced as the main residence when the lord of the manor moved to nearby Stratton Park House in the 16th century. Adjacent to the east side of the moat are the well-defined earthwork remains of a complex network of hollow-ways fields and platforms interpreted as the sites of contemporary manorial out-works comprising of horticultural plots and out-house buildings associated with the moated site. The site is also considered to be within the wider setting of Stratton Park Moat (Scheduled Monument), John O'Gaunts Hill (Scheduled Monument) and listed buildings as well as the Conservation Area of Sutton. Mitigation is provided through draft Local Plan policy (Built Heritage) which should ensure development does not lead to any significant effects on the setting of Designated Heritage Assets, with the potential for a residual neutral effect. There remains an element of uncertainty until site level assessments have been completed.	

Growth Location: Henlow Airfield & Camp **Number of Dwellings:** up to 1000 homes [Please note that the SA was undertaken at an earlier stage of developing this proposed Growth Location & only considered new housing; subsequently the Council has decided to propose this location for strategic employment]

[51] https://historicengland.org.uk/listing/the-list/list-entry/1012161

Growth Location: Henlow Airfield & Camp
Number of Dwellings: up to 1000 homes

[Please note that the SA was undertaken at an earlier stage of developing this proposed Growth Location & only considered new housing; subsequently the Council has decided to propose this location for strategic employment]

SA Objective	Assessment of Effects **Nature of the likely sustainability effect (including positive/negative, short - medium term (5-10 years)/long term (10 - 20 years plus), permanent/temporary, secondary, cumulative and synergistic); Uncertainty**	
1. Housing To ensure that the housing needs of all residents and communities are met	The delivery of up to 1000 new homes can make a significant contribution to achieving the overall housing needs of Central Bedfordshire with the potential for major long-term positive effects. It is assumed that development at the growth location can meet the policy objectives of draft Local Plan policy (Housing Mix) to provide an appropriate mix of housing types, tenures and sizes.	++
2. Communities[52] To maintain and enhance community and settlement identities	Housing growth in this broad location will develop the land between Henlow and Henlow Camp. While it is assumed that these two areas share connected identities to some extent, given the scale of development in comparison to the small scale of the existing settlements, this is likely to significantly affect community identities in these areas with the potential for a minor long-term cumulative negative effect against SA Objective 2. Development in this area will not result in the loss of any Green Belt land with neutral effects.	0 -
3. Services & Facilities To improve accessibility to services and facilities[53]	Development at the growth location is in close proximity to services and facilities available within Lower Stondon, Henlow and Henlow Camp. Given the scale of development at the site it is considered that there is also the potential for significant provisions to support improved accessibility in this area, with the potential for a major long term positive effect against SA Objective 3. This is supported by draft Local Plan policy (Connectivity and Accessibility).	++

[52] Please note that first symbol relates to location in/out of Green Belt designation; second symbol relates to effects on integration & identity for existing settlements
[53] This relates to the provision of services and facilities, such as schools, healthcare centres, shops, and hospitality (café, restaurant, pub).

Growth Location: Henlow Airfield & Camp **Number of Dwellings:** up to 1000 homes [Please note that the SA was undertaken at an earlier stage of developing this proposed Growth Location & only considered new housing; subsequently the Council has decided to propose this location for strategic employment]		
4. Employment To support the economy and ensure that there are suitable opportunities for employment	The growth location has been identified for the development of housing and as such is unlikely to lead to any significant effects against this SA Objective, with the potential for a neutral effect. The option is located in close proximity to a strategic rail connection route at Arlesey which is likely to increase accessibility to employment areas. Development is this location is also likely to support the vitality and viability of local town centres, including Arlesey, Shefford and Stotfold, with the potential for minor long term positive effects.	**0** **+**
5. Health & Equality To improve the health and wellbeing of communities and reduce inequalities	The growth location is not in an area of higher deprivation and thus unlikely to lead to any significant effects. The broad locational area includes previously developed land including a golf course that had waste imported for site bunding. It is understood that there have been historically stored hazardous substances (medical and aircraft fuel) and there is also a source of contamination from a disused railway line. MBDA Systems (including manufacture and storage of missiles) are located to the north and care will be required to ensure the health and well-being for any proposed residential areas. Development Management Policies such as Policy CC7 Pollution and HQ1 Health Impact Assessment provide mitigation measures regarding the protection of human health indicating neutral effects but some uncertainty at this stage of assessment until more detailed masterplanning and project level studies. Previously developed and contaminated land are dealt with SA Objective No 11 Soils & Land and it is acknowledged that remediation would be required to safe guard the health of future occupiers. The Environmental Framework[54] identifies that this area is not located within a priority corridor of the strategic green infrastructure network. However, it is considered that development in this area has the potential to support green infrastructure and habitat connectivity with the potential for minor long-term positive effects against SA Objective 5.	**0?** **+**

[54] http://www.centralbedfordshire.gov.uk/environment/natural/environmental-framework.aspx

Growth Location: Henlow Airfield & Camp **Number of Dwellings:** up to 1000 homes [Please note that the SA was undertaken at an earlier stage of developing this proposed Growth Location & only considered new housing; subsequently the Council has decided to propose this location for strategic employment]		
6. Highways & Air Quality To maintain and improve the existing highway network and reduce associated indirect impacts on air quality and greenhouse gas emissions	Early transport modelling[55] identifies that further growth in this area may put additional pressure on the local roads, particularly the A507 and routes towards Hitchin, as well as the strategic routes such as the A507 and A1. However, this could be mitigated through good access to public transport networks. Given the scale of development is it anticipated that development can provide significant infrastructure investment, and mitigation is provided through draft Local Plan policy (Strategic Transport Improvements, Mitigation of Transport Impacts on the Network, Connectivity and Accessibility, Development and Public Transport Interchanges and Low Emission Vehicles) with the potential for a residual neutral effect with an element of uncertainty at this stage. There is no designated AQMA in close distance and therefore, no significant effects on air quality from traffic indicated at this stage.	**0?**
7. Sustainable Transport To encourage a demonstrable modal shift and reduce the need to travel	The location is connected to the existing urban areas of Henlow, Henlow Camp and Lower Stondon which is served by bus services. It is anticipated that growth in this location could accommodate viable extensions to such services (e.g. service number 71, 188, 190, W1, W4 and W7[56]) through appropriate development contributions. The existing northern edge of the broad location is located around 1.5 miles from Arlesey Station[57], with the potential for a minor long term positive effect.	**+**
8. Energy & Climate Change To maximise the potential	Given the potential sustainable transport connections identified against SA Objective 7 it is anticipated that development in this growth location can support a continued reduction in GHG emissions, this is further supported by draft Local Plan policy (Connectivity and Accessibility).	**+?**

[55] Aecom (2016) Technical Note Stage 1A Growth Area Analysis
[56] Google Maps
[57] Google Maps estimated drive time from the A507 to Arlesey Station

Growth Location: Henlow Airfield & Camp **Number of Dwellings:** up to 1000 homes [Please note that the SA was undertaken at an earlier stage of developing this proposed Growth Location & only considered new housing; subsequently the Council has decided to propose this location for strategic employment]		
for energy efficiency, reduce greenhouse gas emission and ensure that the built and natural environment and its communities withstand the effects of climate change[58]	It is further anticipated that through compliance with draft Local Plan policy (Successful and Sustainable Places,) development could achieve policy targets for energy efficiency, high quality design standards that ensure resilience to the effects of climate change and offer potential opportunities for renewable energy production. Potential for a long term minor positive effect but some uncertainty at this stage.	
9. Water Resources & Quality To minimise the demand for water and maintain or improve water quality	The Water Cycle Study identifies that this location lies within the Upper Bedford and Ouse catchment, where the main pressure on water resources is the abstraction of water for public supply. Abstraction for consumption is only available for up to 32% of the time and 25% of licenses in the area are time limited and tied to a Common End Date (CED) of March 2028. It is also recognised[59] that one of the most likely effects of climate change to impact upon Central Bedfordshire will be a shortage of water resources. The Ruthamford South Water Resource Zone (WRZ) is predicted to be in supply-demand deficit by 2026/27 as a result of growth and reduced yield. There are no strategic limitations on development growth as Water Companies have a statutory duty to supply water; however, capacity for providing additional supply varies & any new infrastructure requirements have to be aligned with Water Resources Management Plans. The addition of 1000 new homes in this area is therefore considered to have the potential for cumulative effects on water resources but uncertainty until the scale & location is identified and the Water Cycle Study Phase 2 is undertaken. Rivers in the vicinity of the growth location are considered to be in a moderate overall water body class. The majority of watercourses in the Plan area are not currently meeting 'good' classification	**0**

[58] Please note that Flood Risk is considered by the SA within objective number 10
[59] LDA Design (2012) Central Bedfordshire Climate Change Adaptation Evidence Base Final Report

Growth Location: Henlow Airfield & Camp **Number of Dwellings:** up to 1000 homes [Please note that the SA was undertaken at an earlier stage of developing this proposed Growth Location & only considered new housing; subsequently the Council has decided to propose this location for strategic employment]		
	and the most common reason for this is 'pollution from waste water'. The Water Cycle Study identifies that all WwTWs have some capacity within their existing quality permits to accommodate future development without causing a class of 10% deterioration, however in some settlements the available capacity is quite small, and in some cases development may also require WwTW upgrades With draft Local Plan Policies on Climate Change & Sustainability, Water Quality and Pollution, strong mitigation measures are in place to ensure at least neutral effects on water quality, and ensure that development supports local WRMPs with high water efficiency targets.	
10. Flood Risk To reduce the risk of flooding from all sources	Though there are areas of flood risk within the location option[60], in line with draft Local Plan policy (Flood Risk Management) it is expected that development would avoid these areas with the potential for a residual neutral effect. Draft Local Plan policy (Successful and Sustainable Places) requires development to maximise opportunities for Sustainable Drainage Systems, where applicable, and there may be possibilities for enhanced effects to help resolve existing flooding problems with the potential for some positive effects but uncertain at this stage of appraisal. Likely residual neutral effects.	**0**
11. Soil To protect and conserve soil	Development in this broad location will result in the loss of greenfield land and is also likely to regenerate areas of previously developed land, with the potential for both negative and positive effects against SA Objective 11. There is Grade 2 best and most versatile agricultural land in the broad growth location, specifically to the east, south and west of Henlow Camp. To the north there is Grade 3 agricultural land (sub-grade 3a or 3b not known)[61].	**-** **+ ?**

[60] Environment Agency (2016) Flood Map for Planning
[61] Central Bedfordshire Council GIS layers (2017)

Growth Location: Henlow Airfield & Camp **Number of Dwellings:** up to 1000 homes [Please note that the SA was undertaken at an earlier stage of developing this proposed Growth Location & only considered new housing; subsequently the Council has decided to propose this location for strategic employment]		
	Given the nature of the land use at RAF Henlow there may be contamination constraints and as described above under SA Objective No 5 on health, contaminated land through previous uses is likely with the potential for negative effects. Draft Local Plan policy (Pollution) should ensure that there will be no significant effects on health, and project level mitigation can ensure the appropriate remediation if necessary with the potential for minor positive effects through land restoration and helping resolve an existing sustainability problem – some uncertainty remains at this stage until further studies and details of mitigation possibilities prepared.	
12. Biodiversity & Geodiversity To protect, enhance and manage biodiversity & geodiversity.	There are no internationally designated biodiversity sites in or immediately around the proposed growth location. There are also no SSSIs, National Nature Reserves or Local Nature Reserves around the growth location. To the east of the growth location there are a number of County Wildlife Sites (CWS) and a range of Priority Habitats[62]. The Priority Habitats include Deciduous Woodland, Floodplain Grazing Marsh, Lowland Meadows and semi-improved Grassland. The biodiversity network is also located to the east of the growth location, encompassing the Priority Habitat and CWSs, whilst following the path of the River Purwell. Development in this growth location therefore has the potential to result in negative effects such as light and noise pollution affecting local wildlife, increased recreation use resulting in disturbance and destruction, and possible effects on the River Purwell through run-off and waste. A buffer zone around this area would help protect the CWSs and Priority Habitat. Mitigation is provided through draft Local Plan policy (Nature Conservation) which seeks to ensure that development does not adversely affect CWSs, and draft Local Plan policy (Enhancing Ecological Networks) further seeks to ensure that development positively contributes to biodiversity. There is the potential for improvement and enhancement of the biodiversity network. The growth location is in an area which has a limited amount of biodiversity network, and so the creation of new ecological corridors and new habitats would help increase the ecological value of the area.	+

[62] DEFRA (2016) Magic Map Application

Growth Location: Henlow Airfield & Camp **Number of Dwellings:** up to 1000 homes [Please note that the SA was undertaken at an earlier stage of developing this proposed Growth Location & only considered new housing; subsequently the Council has decided to propose this location for strategic employment]		
	These enhancements would help meet the aims of the Central Bedfordshire Nature Conservation Strategy[63] and the Central Bedfordshire Environmental Framework[64]. Any footpaths in the growth location should be maintained to allow current and future residents access to greenspace and the CWSs. Overall it is considered that there is the potential for long-term minor positive effects.	
13. Landscape Protect and enhance the landscape and townscape	This growth location is not located adjacent to or within the designated AONB landscape. The broad location is within the Bedfordshire and Cambridgeshire Claylands National Character Area, and the statements of environmental opportunity identify the potential to create high quality green infrastructure (identified against SA Objective 5) and landscape regeneration in new development and the need to protect the aquifers and quality of the River Great Ouse. Development in this location is considered overall to support these objectives with the potential for minor long term positive effects against SA Objective 13.	**+**
14. Historic Environment To ensure the protection and enhancement of heritage assets, the historic environment and its setting.	There are a small number of Archaeological Notification Areas within the location[65], in which development (according with draft Local Plan Policy Archaeology) could contribute to investigating and recording heritage assets of archaeological significance. The broad location contains Listed Buildings (190 Hitchin Road, and aircraft hangars and the coupled general service shed at RAF Henlow). The development of housing is likely to affect the heritage setting and use of these buildings, and it is recognised that there is the potential for both positive and negative effects. Development will require high quality, responsive design. Mitigation is provided through draft Local Plan policy (Built Heritage) which should ensure development does not lead to any significant effects on the settings of the Listed Buildings, however the effects of development in this area remain uncertain until site level proposals and	**?**

[63] Central Bedfordshire Council (2015) Central Bedfordshire Nature Conservation Strategy
[64] Central Bedfordshire Council (no date) Environmental Framework
[65] Central Bedfordshire Council GIS Map Layers

Growth Location: Henlow Airfield & Camp **Number of Dwellings:** up to 1000 homes [Please note that the SA was undertaken at an earlier stage of developing this proposed Growth Location & only considered new housing; subsequently the Council has decided to propose this location for strategic employment]		
	details can be assessed.	

Growth Location Option: Luton North **Number of Dwellings:** up to 4000 homes		
SA **Topic & Objective**	**Assessment of Effects** **Nature of the likely sustainability effect (including positive/negative, short - medium term (5-10 years)/long term (10 - 20 years plus), permanent/temporary, secondary, cumulative and synergistic); Uncertainty**	
1. Housing To ensure that the housing needs of all residents and communities are met	The delivery of up to 4000 new homes can make a significant contribution to achieving the overall housing needs of Central Bedfordshire as well as the needs of Luton with the potential for major long-term positive effects. It is assumed that development at the growth location can meet the policy objectives of draft Local Plan policy (Housing Mix) to provide an appropriate mix of housing types, tenures and sizes.	**++**
2. Communities[66] To maintain and enhance community and settlement identities	Housing growth in this broad location will expand the urban area of Luton north and contribute to coalescence between Luton and lower Sundon. It will also expand the urban area east towards Houghton Regis with the potential for cumulative effects to the north. The contribution to coalescence of the settlements is considered to have the potential for minor long term negative effects. Development in this area will also result in the loss of Green Belt land. The Green Belt Study[67] identifies that this land as parcel L2, all of which is considered to make a strategic contribution to the purposes of the Green Belt. As such, development in this area is considered to have the potential for major long-term negative effects. Development in this area could integrate well with the existing urban area of Luton but is likely to have indirect negative effects on the identity of the smaller surrounding settlements such as Sundon. Overall, it is considered to have the potential for minor long-term cumulative negative effects on communities in Central Bedfordshire.	**--** **-**

[66] Please note that first symbol relates to location in/out of Green Belt designation; second symbol relates to effects on integration & identity for existing settlements
[67] LUC for Central Bedfordshire Council Green Belt Study (October, 2016)

3.Services & Facilities To improve accessibility to services and facilities[68]	Development at the growth location option is in close proximity to services and facilities available within Luton. Given the scale of development at the site it is considered that there is also the potential for significant provisions to support improved accessibility in this area, with the potential for a major long term positive effect against SA Objective 3. This is supported by draft Local Plan draft policy (Connectivity and Accessibility).	++
4. Employment To support the economy and ensure that there are suitable opportunities for employment	The growth option has been identified for the development of housing and as such is unlikely to lead to any significant effects against this SA Objective, with the potential for a neutral effect. The location is in close proximity to Luton as a major employment source for Central Bedfordshire & thus it is likely to increase accessibility to employment areas in this respect. Development in this location may also support the vitality and viability of the major town centres in close proximity, Dunstable and Luton, with the potential for minor long term and cross-boundary positive effects. As a large urban extension, employment would be proposed and the site is located adjacent to the potential Sundon RFI – potential for positive effects also for residents living in north Luton.	0 +
5. Health & Equality To improve the health and wellbeing of communities and reduce inequalities	The growth location option is not in an area of higher deprivation and therefore, no significant effects. The Environmental Framework[69] identifies this area as located within The Chalk Arc, a priority corridor of the strategic green infrastructure network. The priority corridor is identified as an area where investment and project delivery can make most impact in securing multi-functional green infrastructure. Of importance is The Chalk Arc Project[70] that focuses on securing green space in and around proposed housing growth. The growth location is identified in the Chalk Arc Project as Area D – North Luton and Chilterns priority zone. The aim here is to improve public perception of safety at the northern end of Great Bramingham Park and increase the site's biodiversity by improving an area of chalk grassland. Development in this area could also contribute to improving the visual impact of the Friends of Gill Blowers Community Orchard and wildflower meadow. It is considered therefore that development in this area has the potential to support green infrastructure priorities and have major long-term positive effects. This is further considered to indirectly positively affect the landscape objectives of the National Character Area 110: Chilterns (see SA Objective 13).	0 ++

[68] This relates to the provision of services and facilities, such as schools, healthcare centres, shops, and hospitality (café, restaurant, pub).
[69] http://www.centralbedfordshire.gov.uk/environment/natural/environmental-framework.aspx
[70] http://www.bedscape.org.uk/BRMC/chalkarc/home.htm

6. Highways & Air Quality To maintain and improve the existing highway network and reduce associated indirect impacts on air quality and greenhouse gas emissions	Early transport modelling[71] identifies that development adjacent to Luton is likely to increase congestion for routes into Luton and other urban roads as well as links to the strategic highway network; however, this could be mitigated through good access to public transport networks including the Midland Main railway line. The proposed M1-A6 Link Road will provide significant mitigation for increased congestion with the potential for residual neutral effects – but some uncertainty remains at this stage of assessment. Recent additional funding[72] indicates more certainty for this major highway improvement that will complement other proposed schemes and benefit the wider sub-regional area with positive effects in the longer-term that could be synergistic and cumulative. Given the scale of development is it anticipated that development can provide significant infrastructure investment, and mitigation is provided through draft Local Plan Policy (Strategic Transport Improvements, Mitigation of Transport Impacts on the Network, Connectivity and Accessibility, Development and Public Transport Interchanges and Low Emission Vehicles) with the potential for a residual neutral effect but with an element of uncertainty at this stage. There are 3 AQMAs in Luton[73] and one in nearby Dunstable. However, the broad area option is located some distance from these AQMAs such that mitigation measures should be effective with likely neutral effects.	**0?**
7. Sustainable Transport To encourage a demonstrable modal shift and reduce the need to travel	The location is well connected to the existing urban area of Luton, which is well-served by bus services. It is anticipated that growth in this location could accommodate a viable extension to such services which operate in the northern area of Luton (e.g. service number 20, 23, 823 and services supporting the Marsh Farm area[74]) through appropriate development contributions. The existing northern urban edge of Luton is located less than 2 miles from Leagrave Station, and bus service number 20 and 27 offers sustainable transport connections to this station[75]. Overall it is considered that there is the potential for minor long term positive effects.	**+**
8. Energy & Climate Change To maximise the	Given the potential sustainable transport connections identified against SA Objective 7 it is anticipated that development in this growth location can support a continued reduction in GHG emissions, this is further supported by draft Local Plan policy (Connectivity and Accessibility).	**+?**

[71] Aecom (2016) for Central Bedfordshire Council. Technical Note Stage 1A Growth Area Analysis
[72] http://www.centralbedfordshire.gov.uk/news/march/gov-funding-link-road.aspx
[73] https://uk-air.defra.gov.uk/aqma/maps
[74] Google Maps
[75] Google Maps estimated drive time and route connections from Pinewood Close (most northern tip of existing Luton urban area) to Leagrave Station

potential for energy efficiency, reduce greenhouse gas emission and ensure that the built and natural environment and its communities withstand the effects of climate change[76]	It is further anticipated that through compliance with draft Local Plan policy (Successful and Sustainable Places,) development could achieve policy targets for energy efficiency, high quality design standards that ensure resilience to the effects of climate change and offer potential opportunities for renewable energy production. Potential for a long term minor positive effect but some uncertainty at this stage.	
9. Water Resources & Quality To minimise the demand for water and maintain or improve water quality	The Water Cycle Study[77] identifies that this locational option lies within the Upper Lea catchment, located on unconfined chalk geology, in which there are a large number of abstraction licences for groundwater resources, utilised for supporting the public water supply and agricultural uses. There is no surface water available for licensing across this catchment at any flow level as the recent flows are below the requirement to meet a Good Ecological Status. It is identified that no new consumptive licenses for groundwater will be granted in the catchment, and the water resources (for both surface and groundwater abstraction) are available less than 30% of the time, indicating pressures on the catchment for resources. It is also recognised[78] that one of the most likely effects of climate change to impact upon Central Bedfordshire will be a shortage of water resources. There are no strategic limitations on development growth as Water Companies have a statutory duty to supply water; however, capacity for providing additional supply varies & any new infrastructure requirements have to be aligned with Water Resources Management Plans. The addition of 4000 new homes in this area is therefore considered to have the potential for cumulative effects on water resources but uncertainty until the scale & location is identified and the Water Cycle Study Phase 2 is undertaken. The River Lee through Luton has been classified as poor quality with regard to the EU Water Framework Directive, but this is not near to the growth locational option to the north of Luton. The option is not within zones 1-2 of any source protection zones and with draft Local Plan Policies on Climate Change & Sustainability, Water Quality and Pollution, strong mitigation measures are in place to ensure at least neutral effects on water quality. Other draft Policies such as on Sustainable Drainage offer possibilities for enhancement through resolving existing problems but uncertain at this stage until more detailed studies.	**0**

[76] Please note that Flood Risk is considered by the SA within objective number 10
[77] JBA for Central Bedfordshire Council (Jan 2017) Water Cycle Study Stage 1
[78] LDA Design (2012) Central Bedfordshire Climate Change Adaptation Evidence Base Final Report

10. Flood Risk To reduce the risk of flooding from all sources	The broad growth location option is not in an area at risk of flooding from rivers or the sea[79]. Draft Local Plan policy (Successful and Sustainable Places) requires development to maximise opportunities for Sustainable Drainage Systems, where applicable, with the potential for some positive effects. Likely residual neutral effects.	**0**
11. Soil To protect and conserve soil	Development in this broad location option will predominantly result in the loss of greenfield land with the potential for minor long-term negative effects. There is Grade 2 best and most versatile agricultural land in the broad growth location, and some grade 3 agricultural land (sub-grade 3a or 3b not known)[80]. It is recognised that there remains an element of uncertainty in the agricultural land classification until lower level site assessments have been completed. Given that the location is greenfield land, development is unlikely to contain or require remediation for any contaminated land.	**-?**
12. Biodiversity & Geodiversity To protect, enhance and manage biodiversity & geodiversity	The option is not located near any internationally designated sites nor located in the Nature Improvement Area, but is located close to nationally designated biodiversity sites. Directly to the north-west of the growth option is Sundon Chalk Quarry SSSI and County Wildlife Site (CWS)[81], containing a range of habitats which have enabled a rich and varied insect fauna to develop, making this one of the most important invertebrate sites in the county[82]. These habitats include two Priority Habitats; Lowland Calcareous Grassland and Deciduous Woodland[83]. Just over half a mile to the east of the growth location is Galley and Warden Hills SSSI (also a designated CWS and Local Nature Reserve (LNR)) that supports characteristic down land flora, including many locally uncommon species and nationally rare plants, as well as Lowland Calcareous Grassland Priority Habitat[84]. Just under a mile to the north-west of the growth location is Fancott Woods & Meadows SSSI which contains Lowland Meadows Priority Habitat[85]. Development therefore has the potential to affect nationally designated biodiversity, particularly in the north-west, through increased noise and light pollution and disturbance. Mitigation is provided through draft Local Plan policy (Nature Conservation) which ensures that development will not adversely affect nationally designated biodiversity. Potential for a residual neutral effect.	**+**

[79] Environment Agency (2016) Flood Map for Planning
[80] Central Bedfordshire Council GIS layers (2017)
[81] Ibid.
[82] Sundon Chalk Quarry Citation (1998) [Accessed Online: 2016] http://www.sssi.naturalengland.org.uk/citation/citation_photo/1005586.pdf
[83] DEFRA (2016) Magic Map Application
[84] Galley & Warden Hills Citation (1998) [Accessed Online: 2016] http://www.sssi.naturalengland.org.uk/citation/citation_photo/1000571.pdf
[85] DEFRA (2016) Magic Map Application

	In addition, there are three locally designated County Wildlife Sites within the growth location option which contain Deciduous Woodland Priority Habitats[86]; these habitats also extend beyond the designated sites. The growth option also contains areas located within the existing biodiversity network. Development has the potential to lead to fragmentation of these ecological corridors, and thus potential for minor long-term negative effects. Development also has the potential to support increased connectivity through new habitat creation or contributions to existing habitat improvements, and thus potential for minor long-term positive effects. Draft Local Plan policy (Nature Conservation) seeks to ensure that development does not adversely affect CWSs, and draft policy (Enhancing Ecological Networks) seeks to ensure that development positively contributes to biodiversity. Overall it is considered likely, therefore, that development will lead to minor long-term positive effects in consideration of the mitigation measures provided through strong draft policies. Possible enhancements that could be applied to improve the local biodiversity network in this area include the provision of ecological corridors or stepping stones such as hedges or woodland to enhance connections between existing sites and areas of Priority Habitat, and ensure safe pathways for wildlife. There would also be the opportunity to encourage future residents of any development to engage with local biodiversity in a sustainable way by providing appropriate access. These enhancements would help meet the aims of the Central Bedfordshire Nature Conservation Strategy[87] and the Central Bedfordshire Environmental Framework[88].	
13. Landscape Protect and enhance the landscape and townscape	This growth location option is adjacent to or partially within (precise boundary unclear at this stage) the designated AONB landscape. Development at this scale has significant potential to negatively affect the AONB setting through urbanisation in a previously undeveloped area. It is considered therefore that there is the potential for major long-term negative effects against SA Objective 13. Mitigation measures could include development avoiding the AONB and screening with creative design that could reduce negative effects on the setting of the AONB – however, this is uncertain until further studies are undertaken and the precise likely location of new development is known. The option is within the Chilterns National Character Area, and the statements of environmental opportunity identify the need to conserve the Chilterns' groundwater resource and secure sustainable water use (discussed further in SA Objective 9) and to create or enhance green infrastructure in relation to the urban fringe and growth areas such as Luton (discussed in SA Objective 5) to support the objectives of this landscape area.	**--?**

[86] Ibid.
[87] Central Bedfordshire Council (2015) Central Bedfordshire Nature Conservation Strategy
[88] Central Bedfordshire Council (no date) Environmental Framework

14. Historic Environment To ensure the protection and enhancement of heritage assets, the historic environment and its setting	There are a number of Archaeological Notification Areas within the location[89], in which development (according with draft Local Plan Policy Archaeology) could contribute to investigating and recording heritage assets of archaeological significance. There are no designated heritage assets within the location option. Just adjacent to the eastern edge of the growth location is Dray's Ditches Scheduled Monument, earthworks that date back to Bronze and Iron Age times and which are related to the ancient route of Icknield Way[90]. In 2012 this Scheduled Monument was identified on the Heritage at Risk Register, noted to be in 'generally satisfactory' condition 'but with significant localised problems, including dumping'[91]. Now in 2016 it is not identified in the at Risk Register and as such it is assumed that these issues have been reviewed and addressed. Increased development in the area should ensure that it supports any measures in place to avoid the resurgence of such localised problems. Adjacent to the growth location in the north, Lower Sundon contains the Listed Buildings of the Church of St Mary, St Mary's Vicarage, Chestnut Cottage and Aubers Farmhouse. Development may require mitigation measures to avoid negative effects on the settings of these Listed Buildings. Mitigation is provided through draft Local Plan policy (Built Heritage) which should ensure development does not lead to any significant effects. Overall, likely neutral effects with an element of uncertainty at this stage until lower level assessments have been completed.	**0?**

[89] Central Bedfordshire Council GIS Map Layers
[90] Luton Borough Council (2016) Luton's Heritage: https://www.luton.gov.uk/Leisure_and_culture/Events,%20tourism%20and%20accommodation/Pages/Luton's%20heritage.aspx
[91] http://www.luton-dunstable.co.uk/sites-listed-inat-risk-report-heritage-body/story-21699316-detail/story.html

Growth Location: Luton West **Number of Dwellings:** up to 2000 homes		
SA Topic & Objective	**Assessment of Effects** **Nature of the likely sustainability effect (including positive/negative, short - medium term (5-10 years)/long term (10 - 20 years plus), permanent/temporary, secondary, cumulative and synergistic); Uncertainty**	
1. Housing To ensure that the housing needs of all residents and communities are met	The delivery of up to 2000 new homes can make a significant contribution to achieving the overall housing needs of Central Bedfordshire as well as some of the needs of Luton with the potential for major long-term positive effects. It is assumed that development at the growth location can meet the policy objectives of draft Local Plan policy (Housing Mix) to provide an appropriate mix of housing types, tenures and sizes.	++
2. Communities[92] To maintain and enhance community and settlement identities	Housing growth in this broad locational option will expand the urban area of Luton to the west and contribute to the coalescence of Luton with the north of Caddington with the potential for a minor long term negative effect. Development in this area is also likely to consume the small village of Chaul End, and erode the small settlement identity, with the potential for major long term negative effects. Development in this area will result in the loss of Green Belt land. The Green Belt Study[93] identifies this land as parcel L6, within which the small fields adjacent to the village of Caddington may make a relatively weak contribution to Green Belt purposes. The proposed development of up to 2000 new homes is likely to extend beyond these small fields, with the potential for major negative effects through loss of Green Belt. However, development in this area is unlikely to integrate well with the existing urban area of Luton due to the separation provided by the M1 -there may be opportunity to enhance the identity of communities in Luton – uncertainty at this stage and any new development is likely to function as a self-contained settlement. Overall, there are likely minor negative effects with uncertainty as to the effectiveness of mitigation measures until further studies are completed.	-- -?

[92] Please note that first symbol relates to location in/out of Green Belt designation; second symbol relates to effects on integration & identity for existing settlements
[93] LUC for Central Bedfordshire Council Green Belt Study (October, 2016)

Growth Location: Luton West **Number of Dwellings:** up to 2000 homes		
3. Services & Facilities To improve accessibility to services and facilities[94]	Development at the growth location option is in close proximity to services and facilities available within Luton and Dunstable. Given the scale of development proposed, it is considered that there is also the potential for significant provisions to support improved accessibility in this area, with the potential for a major long term positive effects. This is supported by draft Local Plan policy (Connectivity and Accessibility).	++
4. Employment To support the economy and ensure that there are suitable opportunities for employment	The growth location option has been identified for the development of housing and as such is unlikely to lead to any significant effects against this SA Objective, with the potential for a neutral effect. The option's close proximity to Luton as a major employment source for Central Bedfordshire is likely to increase accessibility to employment areas in this respect. Housing development in this area may also support the vitality and viability of the major town centres in close proximity, namely Dunstable and Luton, with the potential for minor long term and cross-boundary positive effects.	0 +
5. Health & Equality To improve the health and wellbeing of communities and reduce inequalities	The option is in close proximity to areas of higher deprivation (Dunstable Manshead and Caddington). Development therefore has the potential to improve accessibility, promote investment & reduce inequalities with the potential for major long-term and cumulative positive effects. There is the potential for noise pollution from the M1 and London Luton Airport with the potential to cause significant health implications for future occupiers if development is not suitably located, designed and impacts mitigated. Development Management Policies CC7 Pollution and HQ1 Health Impact Assessment should provide sufficient mitigation measures but some uncertainty remains at this stage of assessment until further studies and masterplanning developed. The Environmental Framework[95] identifies this area as located within The Chalk Arc, a priority corridor of the strategic green infrastructure network. The priority corridor is identified as an area where investment and project delivery can make most impact in securing multi-functional green infrastructure. Of importance is The Chalk Arc Project[96] which focuses on securing green space in and around proposed housing growth. The growth location is identified in the Chalk Arc Project as Area C – South Dunstable and South Luton Priority Zone. Development in this area could contribute to existing projects including enhanced access and interpretation, as well as community involvement at Blows Down, increased public use of the green space at Downside, and improvements to the quality of one of the accesses to Blow's Downs Park. It is considered therefore that development in this area has the potential to support	++? ++

[94] This relates to the provision of services and facilities, such as schools, healthcare centres, shops, and hospitality (café, restaurant, pub).
[95] http://www.centralbedfordshire.gov.uk/environment/natural/environmental-framework.aspx
[96] http://www.bedscape.org.uk/BRMC/chalkarc/home.htm

Growth Location: Luton West **Number of Dwellings:** up to 2000 homes		
	green infrastructure priorities and have major long-term positive effects. This is further considered to indirectly positively affect the landscape objectives of the National Character Area 110: Chilterns (see SA Objective 13).	
6. Highways & Air Quality To maintain and improve the existing highway network and reduce associated indirect impacts on air quality and greenhouse gas emissions	Early transport modelling[97] identifies that development adjacent to Luton is likely to increase congestion for routes into Luton and other urban roads as well as links to the strategic highway network; Chaul End Road is a country lane that would need significant upgrades. Luton Road, will require junction improvements. This could also be mitigated to some extent through enhanced access to public transport networks including the Midland Main railway line. Given the scale of development is it anticipated that new development can provide significant infrastructure investment, and mitigation is provided through draft Local Plan policy (Strategic Transport Improvements, Mitigation of Transport Impacts on the Network, Connectivity and Accessibility, Development and Public Transport Interchanges and Low Emission Vehicles) with the potential for a residual neutral effect but some uncertainty remaining at this stage. There are 3 AQMAs in Luton[98] and one in nearby Dunstable. However, the broad area option is located some distance from these AQMAs such that mitigation measures should be effective with likely neutral effects.	**-?**
7. Sustainable Transport To encourage a	Although the locational option is adjacent to the urban area of Luton, it is disconnected by the M1 motorway which creates a significant barrier to integration, with likely significant infrastructure investment requirements to create the appropriate connections to existing modes of sustainable	**+**

[97] Aecom (2016) Technical Note Stage 1A Growth Area Analysis
[98] https://uk-air.defra.gov.uk/aqma/maps

Growth Location: Luton West **Number of Dwellings:** up to 2000 homes		
demonstrable modal shift and reduce the need to travel	transport, including bus services along Dallow Road (801, X31) and Castle Croft Road (28, 28A, 29, 29A, 828 & 829[99]); however, there is the Busway[100] that links H Regis, Dunstable & Luton, and the closest train station at Luton (approx. 2.5miles[101]). However, given the scale of development for this option and that it is more likely to be a self-contained development, it is anticipated that these infrastructure provisions can be provided, and supported by emerging draft Local Plan Policies, with the potential for minor long term positive effects.	
8. Energy & Climate Change To maximise the potential for energy efficiency, reduce greenhouse gas emission and ensure that the built and natural environment and its communities withstand the effects of climate change[102]	Given the potential sustainable transport connections identified against SA Objective 7 it is anticipated that development in this growth location can support a continued reduction in GHG emissions, this is further supported by draft Local Plan policy (Connectivity and Accessibility). It is further anticipated that through compliance with draft Local Plan policy (Successful and Sustainable Places,) development could achieve policy targets for energy efficiency, high quality design standards that ensure resilience to the effects of climate change and offer potential opportunities for renewable energy production. Potential for a long term minor positive effect but some uncertainty at this stage.	**+?**
9. Water Resources & Quality To minimise the demand for water and maintain or improve water quality	The Water Cycle Study[103] identifies that this locational option lies within the Upper Lea catchment, located on unconfined chalk geology, in which there are a large number of abstraction licences for groundwater resources, utilised for supporting the public water supply and agricultural uses. There is no surface water available for licensing across this catchment at any flow level as the recent flows are below the requirement to meet a Good Ecological Status. It is identified that no new consumptive licenses for groundwater will be granted in the catchment, and the water resources (for both surface and groundwater abstraction) are available less than 30% of the time, indicating pressures on the catchment for resources.	**0**

[99] Google Maps
[100] http://www.busway.net/
[101] Google Maps estimated drive time from Hatters Way (existing road in the north of the growth location) to Luton Station
[102] Please note that Flood Risk is considered by the SA within objective number 10
[103] JBA for Central Bedfordshire Council (Jan 2017) Water Cycle Study Stage 1

Growth Location: Luton West **Number of Dwellings:** up to 2000 homes		
	It is also recognised[104] that one of the most likely effects of climate change to impact upon Central Bedfordshire will be a shortage of water resources. The Lee Water Resource Zone (WRZ) is predicted to be in supply-demand deficit by 2020. There are no strategic limitations on development growth as Water Companies have a statutory duty to supply water; however, capacity for providing additional supply varies & any new infrastructure requirements have to be aligned with Water Resources Management Plans. The addition of 2000 new homes in this area is therefore considered to have the potential for cumulative effects on water resources but uncertainty until the scale & location is identified and the Water Cycle Study Phase 2 is undertaken. Rivers in the vicinity of the growth location are considered to be in a moderate overall water body class. The majority of watercourses in the Plan area are not currently meeting 'good' classification and the most common reason for this is 'pollution from waste water'. The Water Cycle Study identifies that all WwTWs have some capacity within their existing quality permits to accommodate future development without causing a class of 10% deterioration, however in some settlements the available capacity is quite small, and in some cases development may also require WwTW upgrades With draft Local Plan Policies on Climate Change & Sustainability, Water Quality and Pollution, strong mitigation measures are in place to ensure at least neutral effects on water quality, and ensure that development supports local WRMPs with high water efficiency targets.	
10. Flood Risk To reduce the risk of flooding from all sources	The growth option is not in an area at risk of flooding from rivers or the sea[105]. Draft Local Plan policy (Successful and Sustainable Places) requires development to maximise opportunities for Sustainable Drainage Systems where applicable and there may be possibilities for enhanced effects to help resolve existing flooding problems but uncertain at this stage of appraisal. Overall, a residual neutral effect at this stage.	**0**

[104] LDA Design (2012) Central Bedfordshire Climate Change Adaptation Evidence Base Final Report
[105] Environment Agency (2016) Flood Map for Planning

Growth Location: Luton West **Number of Dwellings:** up to 2000 homes		
11. Soil To protect and conserve soil	Development in this option will predominantly result in the loss of greenfield land (with the exception of a large vehicle compound area, if this is included) with the potential for minor long-term negative effects. The broad growth location contains Grade 3 best and most versatile agricultural land (sub-grade 3a or 3b not known)[106]. It is recognised that there remains an element of uncertainty in the agricultural land classification until lower level site assessments have been completed. Given that the location is greenfield land, development is unlikely to contain or require remediation for any contaminated land.	**-?**
12. Biodiversity & Geodiversity To protect, enhance and manage biodiversity & geodiversity	The option is not located near any internationally designated sites nor located in the Nature Improvement Area. It is located close to a nationally designated biodiversity site, Blow's Down SSSI (also a County Wildlife Site (CWS)), located around a mile to the west of the growth location[107]. The SSSI is a rich and varied site with a large area of open, unimproved grassland[108], and contains Lowland Calcareous Grassland Priority Habitat. The SSSI may be negatively affected by potential development due to an increase in recreational use and potential increase in noise and light pollution. However, it should be noted that the SSSI is already heavily bordered by urban development in Houghton Regis. Mitigation is provided through draft Local Plan policy (Nature Conservation) with the potential for an overall long-term residual neutral effect. It is understood that there are areas of ancient woodland within the broad locational area and these would need to be avoided by any new development. Just over a mile to the west of the growth location is a Local Nature Reserve (LNR)[109] which contains Lowland Calcareous Grassland Priority Habitat and Deciduous Woodland Priority Habitat[110]. There are also a small number of CWSs around the growth option, including one directly to the north, one directly to the south and another site around half a mile to the west. The proposed option contains Lowland Calcareous Grassland Priority Habitat and Deciduous Woodland Priority Habitat[111]. The area, together with land to the north-west and west is also within the biodiversity network[112]. Due to the presence of a number of different Priority Habitats as well as a LNR and CWSs, there is the possibility of negative effects, including habitat fragmentation and species disturbance. However, mitigation is provided	**+?**

[106] Central Bedfordshire Council GIS layers (2017)
[107] DEFRA (2016) Magic Map Application
[108] Blow's Down SSSI Citation (1998) [Accessed Online: 2016] http://www.sssi.naturalengland.org.uk/citation/citation_photo/1005495.pdf
[109] DEFRA (2016) Magic Map Application
[110] Ibid.
[111] Ibid.
[112] The Wildlife Trust for Central Bedfordshire Council (2015) A Nature Conservation Strategy for Central Bedfordshire

Growth Location: Luton West **Number of Dwellings:** up to 2000 homes		
	through draft Local Plan policy (Nature Conservation) which seeks to ensure that development does not adversely affect biodiversity sites, and draft Local Plan policy (Enhancing Ecological Networks) further seeks to ensure that development positively contributes to biodiversity. Enhancement could be achieved through increasing the connectivity of areas of Priority Habitats with the SSSI, LNR and CWSs in the surrounding area via new ecological corridors. Existing rural footpaths could also be developed to allow future residents better access to the area's natural environment, with positive benefits for health and green space access (see also SA Objective No 5). These enhancements would help meet the aims of the Central Bedfordshire Nature Conservation Strategy[113] and the Central Bedfordshire Environmental Framework[114]. Overall it is considered that there is the potential for long-term minor positive effects for improving local biodiversity but some uncertainty at this stage as depends upon more detailed studies.	
13. Landscape Protect and enhance the landscape and townscape	This growth location is adjacent to / partially within (precise boundary unclear at this stage) the designated AONB landscape. Development at this scale has significant potential to negatively affect the AONB setting through urbanisation in a previously undeveloped area. It is considered therefore that there is the potential for major long-term negative effects against SA Objective 13. The broad location is within the Chilterns National Character Area, and the statements of environmental opportunity identify the need to conserve the Chilterns' groundwater resource and secure sustainable water use (discussed further in SA Objective 9) and to create or enhance green infrastructure in relation to the urban fringe and growth areas such as Luton (discussed in SA Objective 5) to support the objectives of this landscape area.	**--**
14. Historic Environment To ensure the	There are two Listed Buildings (Chaul End Farmhouse in the north and Church of All Saints in Caddington in the south) that may be affected by development within this growth option, which is also in close proximity to Caddington Conservation Area. Development may require mitigation measures to avoid	**0?**

[113] ibid
[114] Central Bedfordshire Council (no date) Environmental Framework

Growth Location: Luton West **Number of Dwellings:** up to 2000 homes		
protection and enhancement of heritage assets, the historic environment and its setting	negative effects on the settings of these Listed Buildings and possibly the Conservation Area. Mitigation is provided through draft Local Plan policy (Built Heritage) which should ensure development does not lead to any significant effects with the potential for a residual neutral effect. The option also includes a number of Archaeological Notification Areas[115], in which development (according with draft Local Plan Policy Archaeology) could contribute to investigating and recording heritage assets of archaeological significance. Likely neutral effects but uncertainty until site level assessments have been completed.	

[115] Central Bedfordshire Council (2016) GIS Map Layers

Growth Location: Marston Vale **Number of Dwellings:** New settlement up to 5000 homes		
SA Objective	**Assessment of Effects** **Nature of the likely sustainability effect (including positive/negative, short - medium term (5-10 years)/long term (10 - 20 years plus), permanent/temporary, secondary, cumulative and synergistic); Uncertainty**	
1. Housing To ensure that the housing needs of all residents and communities are met	The delivery of up to 5000 new homes can make a significant contribution to achieving the overall housing needs of Central Bedfordshire with the potential for major long-term positive effects. It is assumed that development at the growth location can meet the policy objectives of draft Local Plan policy (Housing Mix) to provide an appropriate mix of housing types, tenures and sizes.	++
2. Communities[116] To maintain and enhance community and settlement identities	Housing growth in this broad location will expand the urban area of Marston Moretaine south and result in the direct coalescence of Marston Moretaine and Lidlington, with the potential for long term negative effects against SA Objective 2. Development in this area will not result in the loss of any Green Belt land and neutral effects. Development in this area could integrate well with the existing urban areas of Marston Moretaine and Lidlington, but will directly negative effect the individual identities of these settlements. Overall, it is considered to have the potential for long-term cumulative negative effect against SA Objective 2; however, a new settlement offers opportunities for exemplar design and the extent of mitigation possibilities is not known at this stage so uncertainty remains.	0 -?
3. Services & Facilities To improve accessibility to services and facilities[117]	Development at the growth location is in close proximity to services and facilities available within Marston Moretaine and Lidlington. Given the scale of development at the site it is considered that there is also the potential for significant provisions to support improved accessibility in this area, with the potential for a major long term positive effect against SA Objective 3. This is supported by draft Local Plan policy (Connectivity and Accessibility).	++

[116] Please note that first symbol relates to location in/out of Green Belt designation; second symbol relates to effects on integration & identity for existing settlements
[117] This relates to the provision of services and facilities, such as schools, healthcare centres, shops, and hospitality (café, restaurant, pub).

Growth Location: Marston Vale **Number of Dwellings:** New settlement up to 5000 homes		
4. Employment To support the economy and ensure that there are suitable opportunities for employment	The growth location has been identified for the development of housing and as such is unlikely to lead to any significant effects against this SA Objective, with the potential for a neutral effect. The location is in close proximity along the A421 to Bedford and Milton Keynes as major employment sources for Central Bedfordshire. It is connected by rail to these two areas which is likely to increase accessibility to employment areas with the development of the East-West Rail Link and proximity to Ridgmont station to the south west, further supporting the vitality and viability of these town centres, as well as local centres such as Ampthill, with the potential for minor long term and cross-boundary positive effects.	**0** **+**
5. Health & Equality To improve the health and wellbeing of communities and reduce inequalities	The growth location is not in an area of higher deprivation and thus unlikely to lead to any significant effects. The Environmental Framework[118] identifies this area as located within Marston Vale, a priority corridor of the strategic green infrastructure network. The priority corridor is identified as an area where investment and project delivery can make most impact in securing multi-functional green infrastructure. Development in this area can also support the objectives of the Community Forest of Marston Vale and support increased connectivity and regenerate land marred by industrialisation (from the brick making industry). It is considered therefore that development in this area has the potential to support green infrastructure priorities and have major long-term positive effects against SA Objective 5.	**0** **++**
6. Highways & Air Quality To maintain and improve the existing highway network and reduce	Early transport modelling[119] identifies that infrastructure improvements, such as to the M1 J13 and other local highway issues, would be crucial given the level of stress on the strategic routes in this area. Also, it is understood that removal of railway level crossings at Lidlington and Millbrook would be required due to safety considerations. It is possible that increases in traffic could also be mitigated through good access to public transport networks with likely neutral residual effects - but	**0?**

[118] http://www.centralbedfordshire.gov.uk/environment/natural/environmental-framework.aspx
[119] Aecom (2016) Technical Note Stage 1A Growth Area Analysis

Growth Location: Marston Vale **Number of Dwellings:** New settlement up to 5000 homes		
associated indirect impacts on air quality and greenhouse gas emissions	uncertainty at this stage. Given the scale of development is it anticipated that development can provide significant infrastructure investment, and mitigation is provided through draft Local Plan policy (Strategic Transport Improvements, Mitigation of Transport Impacts on the Network, Connectivity and Accessibility, Development and Public Transport Interchanges and Low Emission Vehicles) with the potential for a residual neutral effect with an element of uncertainty at this stage. There is an AQMA in Ampthill[120]. However, the broad area option is located some distance from this such that mitigation measures should be effective with likely neutral effects. The Energy Recovery Facility at Rookery Pit South and Brogborough Landfill Gas Power station are in relatively close proximity to the locational area and as such air quality will need to be considered in the context of future occupiers; Development Management Policies CC7 Pollution and HQ1 Health Impact Assessment should provide mitigation measures.	
7. Sustainable Transport To encourage a demonstrable modal shift and reduce the need to travel	The location is well connected to the existing urban areas of Marston Moretaine and Lidlington, which are both served by bus services. It is anticipated that growth in this location could accommodate viable extensions to such services through appropriate development contributions. Development at the location could also be well connected to the branch line railway Millbrook Station located in the east of the broad location, with the potential for a minor long term positive effect. The development of the East-West Rail Link and the area's proximity to Ridgmont station to the south west will support sustainable transport objectives with positive effects. The size and scope of a new settlement also offers strong opportunities through early masterplanning and creative design to provide exemplar opportunities for sustainable transport with positive effects.	**+**
8. Energy & Climate Change To maximise the potential	Given the potential sustainable transport connections identified against SA Objective 7 it is anticipated that development in this growth location can support a continued reduction in GHG emissions, this is further supported by draft Local Plan policy (Connectivity and Accessibility).	**+?**

[120] https://uk-air.defra.gov.uk/aqma/maps

Growth Location: Marston Vale **Number of Dwellings:** New settlement up to 5000 homes		
for energy efficiency, reduce greenhouse gas emission and ensure that the built and natural environment and its communities withstand the effects of climate change[121]	It is further anticipated that through compliance with draft Local Plan policy (Successful and Sustainable Places,) development could achieve policy targets for energy efficiency, high quality design standards that ensure resilience to the effects of climate change and offer potential opportunities for renewable energy production. Potential for a long term minor positive effect but some uncertainty at this stage.	
9. Water Resources & Quality To minimise the demand for water and maintain or improve water quality	The Water Cycle Study identifies that this location lies within the Upper Bedford and Ouse catchment, where the main pressure on water resources is the abstraction of water for public supply. Abstraction for consumption is only available for up to 32% of the time and 25% of licenses in the area are time limited and tied to a Common End Date (CED) of March 2028. It is also recognised[122] that one of the most likely effects of climate change to impact upon Central Bedfordshire will be a shortage of water resources. The Ruthamford South Water Resource Zone (WRZ) is predicted to be in supply-demand deficit by 2026/27 as a result of growth and reduced yield. There are no strategic limitations on development growth as Water Companies have a statutory duty to supply water; however, capacity for providing additional supply varies & any new infrastructure requirements have to be aligned with Water Resources Management Plans. The addition of 5000 new homes in this area is therefore considered to have the potential for cumulative effects on water resources but uncertainty until the scale & location is identified and the Water Cycle Study Phase 2 is undertaken. Rivers in the vicinity of the growth location are considered to be in a moderate overall water body class. The majority of watercourses in the Plan area are not currently meeting 'good' classification and the most common reason for this is 'pollution from waste water'. The Water Cycle Study identifies that all WwTWs have some capacity within their existing quality permits to accommodate future development without causing a class of 10% deterioration, however in some settlements the available capacity is quite small, and in some cases development may also require WwTW	**0**

[121] Please note that Flood Risk is considered by the SA within objective number 10
[122] LDA Design (2012) Central Bedfordshire Climate Change Adaptation Evidence Base Final Report

Growth Location: Marston Vale **Number of Dwellings:** New settlement up to 5000 homes		
	upgrades With draft Local Plan Policies on Climate Change & Sustainability, Water Quality and Pollution, strong mitigation measures are in place to ensure at least neutral effects on water quality, and ensure that development supports local WRMPs with high water efficiency targets.	
10. Flood Risk To reduce the risk of flooding from all sources	Though there are areas of flood risk within the location option[123], in line with draft Local Plan policy (Flood Risk Management) it is expected that development would avoid these areas with the potential for a residual neutral effect. Draft Local Plan policy (Successful and Sustainable Places) requires development to maximise opportunities for Sustainable Drainage Systems, where applicable, and there may be possibilities for enhanced effects to help resolve existing flooding problems with the potential for some positive effects but uncertain at this stage of appraisal. Likely residual neutral effects.	**0**
11. Soil To protect and conserve soil	Development in this broad location will predominantly result in the loss of greenfield land with the potential for minor long-term negative effects. Small areas of Grade 3a best and most versatile agricultural land have been identified within the location[124], and the loss of these areas has the potential for permanent major negative effects against SA Objective 11. Development can avoid these areas to reduce the extent of the negative effects, however it is recognised that there remains an element of uncertainty until a precise location has been identified. Given that the location is greenfield land, development is unlikely to contain or require remediation for any contaminated land.	**-?**
12. Biodiversity & Geodiversity To protect, enhance and	There are no internationally designated sites in or around the broad growth location. To the north-west of the growth location is Marston Thrift SSSI and Local Nature Reserve (LNR)[125], which is an example of ash/maple woodland[126]. To the east of the growth location is Kings Wood and Glebe	**+**

[123] Environment Agency (2016) Flood Map for Planning
[124] DEFRA (2016) Magic Map Application
[125] DEFRA (2016) Magic Map Application
[126] Marston Thrift Citation (1984) [Online: 2016] http://www.sssi.naturalengland.org.uk/citation/citation_photo/1000684.pdf

Growth Location: Marston Vale **Number of Dwellings:** New settlement up to 5000 homes		
manage biodiversity & geodiversity	Meadows SSSI and LNR, another example of ash/maple woodland[127]. To the south-west is Cooper's Hill SSSI and LNR, one of the best remaining examples in Bedfordshire of Lowland Heath[128]. Due to the size of the growth location development may affect these sites. This may occur through increased recreation use from future residents resulting in habitat disturbance and destruction. Other possible impacts may be increased noise and light pollution having adverse effects on local wildlife residing at these sites. The growth location and surrounding land is mostly greenfield with a range of hedgerows present, and the damage or loss of hedgerows would have an impact on ecological corridors. Mitigation is provided through draft Local Plan policy (Nature Conservation) which ensures that development will not adversely affect designated biodiversity. There are a number of locally designated County Wildlife Sites (CWS) in and around the broad growth location. Within the growth location there are blocks of Deciduous Woodland Priority Habitat, Lowland Fens Priority Habitat, Semi-Improved Grassland Priority Habitat, Lowland Meadows Priority Habitat and Lowland Dry Acid Grassland Priority Habitat[129]. Biodiversity network is located largely to the south, to the west, and in and to the east of the development location. Development in this growth location therefore has the potential to result in fragmentation of Priority Habitats and the disruption of local wildlife. Mitigation is provided through draft Local Plan policy (Nature Conservation) which seeks to ensure that development does not adversely affect designated biodiversity sites, and draft Local Plan policy (Enhancing Ecological Networks) further seeks to ensure that development positively contributes to biodiversity. A small amount of the growth location in the south is also located in the Nature Improvement Area (NIA), providing opportunities to improve the NIA's and Central Bedfordshire's biodiversity network. The area around the growth location has a high number of Priority Habitats and nationally and locally designated biodiversity sites. Improving existing ecological corridors between sites and habitats within the NIA and sites and habitats outside the NIA will benefit both the NIA and surrounding ecosystem, and help meet NIA targets of strengthening ecological networks. Providing connections for current residents and future residents between the growth location and the NIA would also provide benefits for resident's health and help meet targets of enhancing public awareness and providing opportunities for people to access and experience the Ridge. Potential	

[127] Kings Wood and Glebe Meadows Citation (1998) [Online: 2016] http://www.sssi.naturalengland.org.uk/citation/citation_photo/1000638.pdf
[128] Cooper's Hill Citation (1998) [Online: 2016] http://www.sssi.naturalengland.org.uk/citation/citation_photo/1000484.pdf
[129] DEFRA (2016) Magic Map Application

Growth Location: Marston Vale **Number of Dwellings:** New settlement up to 5000 homes		
	for long-term minor positive effects. These enhancements would help meet the aims of the Central Bedfordshire Nature Conservation Strategy[130] and the Central Bedfordshire Environmental Framework[131]. The growth location is also located in the Forest of Marston Vale, a community forest made up of a patchwork of woodlands which includes local SSSI and LNR sites. The aim of the designation is to regenerate the industrially scarred landscape, whilst meeting objectives which include creating new opportunities for nature conservation, improving access for all and encourage community commitment to the concept[132]. Development in this broad location could support the objectives of the Forest of Marston vale with the potential for minor long term positive effects. The creation of the Bedford & Milton Keynes Waterway[133], which will pass to the east of Marston Moretaine, will provide enhancement to the local biodiversity and GI networks, providing blue and green corridors which will allow wildlife movement and creating new habitat areas, with biodiversity gains.	
13. Landscape Protect and enhance the landscape and townscape	This growth location is not located adjacent to or within the designated AONB landscape. The broad location is within the Bedfordshire and Cambridgeshire Claylands National Character Area, and the statements of environmental opportunity identify the potential to create high quality green infrastructure (identified against SA Objective 5) and landscape regeneration in new development and the need to protect the aquifers and quality of the River Great Ouse (SA Objective 9 outlines the available mitigation for such effects). Development in this broad location is considered overall to support these objectives with the potential for minor long term positive effects against SA Objective 13.	**+**
14. Historic Environment To ensure the protection and enhancement of	There are a small number of Archaeological Notification Areas within the location[134], in which development (according with draft Local Plan policy Archaeology) could contribute to investigating and recording heritage assets of archaeological significance.	**0?**

[130] Central Bedfordshire Council (2015) Central Bedfordshire Nature Conservation Strategy
[131] Central Bedfordshire Council (no date) Environmental Framework
[132] http://marstonvale.org/
[133] http://www.b-mkwaterway.org.uk/the-waterway/route/
[134] Central Bedfordshire Council GIS Map Layers

Growth Location: Marston Vale **Number of Dwellings:** New settlement up to 5000 homes		
heritage assets, the historic environment and its setting	The broad location contains Listed Buildings (including Thrupp End Farmhouse, and the stone known as the devil's toenail) and a Scheduled Monument. The Medieval village and moated sites at Thrupp End Scheduled Monument[135] are the remains of a deserted village known from low earthworks and aerial photography. The moats are considered to have been part of the medieval manor known as 'Goldington's Manor' belonging to the Abbess of Barking and held by the Goldington family from at least the 15th century. It is possible that the Manor House stood on the site of the present Thrupp End Farm House Listed Building. Development in this broad location may also affect the settings of Listed Buildings in the south west of the Marston Moretaine settlement and Listed Buildings in Lidlington. Mitigation is provided through draft Local Plan policy (Built Heritage) which should ensure development does not lead to any significant effects on the settings of the Listed Buildings and Scheduled Monument, with the potential for a residual neutral effect. There remains an element of uncertainty until site level assessments have been completed.	

[135] https://historicengland.org.uk/listing/the-list/list-entry/1010364

Growth Location: Tempsford South and Tempsford Airfield **Number of Dwellings:** New settlement up to 7000 homes		
SA Topic & Objective	**Assessment of Effects** **Nature of the likely sustainability effect (including positive/negative, short - medium term (5-10 years)/long term (10 - 20 years plus), permanent/temporary, secondary, cumulative and synergistic); Uncertainty**	
1. Housing To ensure that the housing needs of all residents and communities are met	The delivery of up to 7000 new homes can make a significant contribution to achieving the overall housing needs of Central Bedfordshire with the potential for major long-term positive effects. It is assumed that development at the growth location can meet the policy objectives of draft Local Plan policy (Housing Mix) to provide an appropriate mix of housing types, tenures and sizes.	++
2. Communities[136] To maintain and enhance community and settlement identities	Housing growth in this broad locational option will stand alone between the settlements of Tempsford, Everton and Sandy. Although this will not contribute to coalescence, due to the self-contained nature of development it is less likely to integrate well with the existing urban form, and will form a new and separate community identity, with the potential for long term positive effects. Development in this area will not result in the loss of any Green Belt land with neutral effects.	0 +
3. Services & Facilities To improve accessibility to services and facilities[137]	Development at the option is in close proximity to services and facilities available within Sandy, Tempsford and Everton. Given the scale of development at the site it is considered that there is also the potential for significant provisions to support improved accessibility in this area, with the potential for a major long term positive. This is supported by draft Local Plan policy (Connectivity and Accessibility).	++
4. Employment To support the economy and ensure that there are suitable opportunities for	The option has been identified for the development of housing and as such is unlikely to lead to any significant effects, with the potential for a neutral effect. The location is in close proximity to Bedford as a major employment source for Central Bedfordshire and is located close to a strategic rail connection route with a mainline railway station in the centre of Sandy	0 +

[136] Please note that first symbol relates to location in/out of Green Belt designation; second symbol relates to effects on integration & identity for existing settlements
[137] This relates to the provision of services and facilities, such as schools, healthcare centres, shops, and hospitality (café, restaurant, pub).

Growth Location: Tempsford South and Tempsford Airfield **Number of Dwellings:** New settlement up to 7000 homes		
employment	which is likely to increase accessibility to employment areas in this respect. Development in this location may also support the vitality and viability of Sandy town centre, with the potential for minor long term positive effects. Also, access on the A1 north and south to other employment areas.	
5. Health & Equality To improve the health and wellbeing of communities and reduce inequalities	The option will provide development in close proximity to an area of higher deprivation (Sandy[138]). Development therefore has the potential to improve accessibility in these areas and reduce inequalities with the potential for major long-term and cumulative positive effects. There is the potential for noise associated with the A1 and the mainline railway; also, a nearby composting facility with potential issues for odours. Development Management Policies CC7 Pollution and HQ1 Health Impact Assessment provide mitigation measures but some uncertainty remains at this strategic stage of assessment. The Environmental Framework[139] identifies this area as located within the Ivel River Valley, a priority corridor of the strategic green infrastructure network. The priority corridor is identified as an area where investment and project delivery can make most impact in securing multi-functional green infrastructure. It is considered therefore that development in this area has the potential to support green infrastructure priorities and have major long-term positive effects.	**++?** **++**
6. Highways & Air Quality To maintain and improve the existing highway network and reduce associated indirect impacts on air quality and greenhouse gas emissions	Early transport modelling[140] identifies that all new potential growth in this area is likely to have an impact on the A1 and cause further congestion such that infrastructure improvements are likely to be required. It is understood that the existing level crossing between Tempsford and Everton would be required to be removed. The crossing goes over the mainline between Edinburgh and Kings Cross (London) and causes significant waiting times and delays to traffic. Without the removal of this level crossing it is not considered that this site would be acceptable in this respect. Otherwise, some mitigation could be provided through good access to public transport networks. Given the scale of development is it anticipated that development can provide significant infrastructure investment, and mitigation is provided through draft Local Plan policy (Strategic Transport Improvements, Mitigation of Transport Impacts on the Network, Connectivity and Accessibility, Development and Public Transport Interchanges and Low Emission Vehicles) with the potential for a residual neutral effect but an element of uncertainty at this stage.	**0?**

[138] Deprivation Statistics and census information [online] http://www.centralbedfordshire.gov.uk/council/census/deprivation.aspx
[139] http://www.centralbedfordshire.gov.uk/environment/natural/environmental-framework.aspx
[140] Aecom (2016) Technical Note Stage 1A Growth Area Analysis

Growth Location: Tempsford South and Tempsford Airfield **Number of Dwellings:** New settlement up to 7000 homes		
	There is an AQMA in Sandy[141]. However, the broad area option is located some distance from this AQMA such that mitigation measures should be effective with likely neutral effects, although some uncertainty regarding potential poor air quality from the A1 traffic.	
7. Sustainable Transport To encourage a demonstrable modal shift and reduce the need to travel	The option is not directly connected to any of the existing urban areas. The urban area of Sandy is located around 4 miles away, along Tempsford Road and Everton Road which is also the closest route connection to Sandy Station[142]. The smaller settlement of Everton is located around 1.5 miles away which provides bus connections (route numbers 2, 18, 127 188, 190 and 193[143]). Overall it is considered that development at the location is unlikely to support a modal shift with the potential for a minor negative effect, although there may be scope for a sustainable future connection to the East-West Rail Link, so some uncertainty remains at this stage.	**-?**
8. Energy & Climate Change To maximise the potential for energy efficiency, reduce greenhouse gas emission and ensure that the built and natural environment and its communities withstand the effects of climate change[144]	Given the potential sustainable transport connections identified against SA Objective 7 it is anticipated that development in this growth location can support a continued reduction in GHG emissions, this is further supported by draft Local Plan policy (Connectivity and Accessibility). It is further anticipated that through compliance with draft Local Plan policy (Successful and Sustainable Places,) development could achieve policy targets for energy efficiency, high quality design standards that ensure resilience to the effects of climate change and offer potential opportunities for renewable energy production. Potential for a long term minor positive effect but some uncertainty at this stage.	**+?**
9. Water Resources & Quality	The Water Cycle Study identifies that this location lies within the Upper Bedford and Ouse catchment, where the main pressure on water resources is the abstraction of water for public supply. Abstraction for consumption is only available for up to 32% of the time and 25% of licenses in the area are time limited	**0**

[141] https://uk-air.defra.gov.uk/aqma/maps
[142] Google Maps estimated drive time from Tempsford Road to Sandy Station.
[143] Google Maps
[144] Please note that Flood Risk is considered by the SA within objective number 10

Growth Location: Tempsford South and Tempsford Airfield **Number of Dwellings:** New settlement up to 7000 homes		
To minimise the demand for water and maintain or improve water quality	and tied to a Common End Date (CED) of March 2028. It is also recognised[145] that one of the most likely effects of climate change to impact upon Central Bedfordshire will be a shortage of water resources. The Ruthamford South Water Resource Zone (WRZ) is predicted to be in supply-demand deficit by 2026/27 as a result of growth and reduced yield. There are no strategic limitations on development growth as Water Companies have a statutory duty to supply water; however, capacity for providing additional supply varies & any new infrastructure requirements have to be aligned with Water Resources Management Plans. The addition of 7000 new homes in this area is therefore considered to have the potential for cumulative effects on water resources but uncertainty until the scale & location is identified and the Water Cycle Study Phase 2 is undertaken. Rivers in the vicinity of the growth location are considered to be in a moderate overall water body class. The majority of watercourses in the Plan area are not currently meeting 'good' classification and the most common reason for this is 'pollution from waste water'. The Water Cycle Study identifies that all WwTWs have some capacity within their existing quality permits to accommodate future development without causing a class of 10% deterioration, however in some settlements the available capacity is quite small, and in some cases development may also require WwTW upgrades With draft Local Plan Policies on Climate Change & Sustainability, Water Quality and Pollution, strong mitigation measures are in place to ensure at least neutral effects on water quality, and ensure that development supports local WRMPs with high water efficiency targets.	
10. Flood Risk To reduce the risk of flooding from all	Though there are areas of flood risk within the location option[146], in line with draft Local Plan policy (Flood Risk Management) it is expected that development would avoid these areas with the potential for a residual neutral effect.	**0**

[145] LDA Design (2012) Central Bedfordshire Climate Change Adaptation Evidence Base Final Report
[146] Environment Agency (2016) Flood Map for Planning

Growth Location: Tempsford South and Tempsford Airfield **Number of Dwellings:** New settlement up to 7000 homes		
sources	Draft Local Plan policy (Successful and Sustainable Places) requires development to maximise opportunities for Sustainable Drainage Systems, where applicable, and there may be possibilities for enhanced effects to help resolve existing flooding problems with the potential for some positive effects but uncertain at this stage of appraisal. Likely residual neutral effects.	
11. Soil To protect and conserve soil	Development in this area will predominantly result in the loss of greenfield land (with the exception of the runway and associated airfield buildings) with the potential for minor long-term negative effects. There is Grade 2 best and most versatile agricultural land in the broad growth location, and Grade 3 agricultural land (sub-grade 3a or 3b not known)[147]. It is recognised that there remains an element of uncertainty in the agricultural land classification until lower level site assessments have been completed. Given the nature of the land use at Tempsford Airfield there may be some contamination constraints. Draft Local Plan policy (Pollution) should ensure that there will be no significant effects on health, and project level mitigation can ensure the appropriate remediation if necessary with the potential for minor positive effects through land restoration. Overall, minor negative effects through loss of greenfield at this stage but with some uncertainty remaining.	**-?**
12. Biodiversity & Geodiversity To protect, enhance and manage biodiversity & geodiversity	The growth location option is not located near any internationally designated sites or located in the Nature Improvement Area, however there are a number of nationally designated sites to the east. Weaveley & Sand Woods SSSI is to the east of the growth location[148], and contains Ancient Woodland with a mix of species, and an additional interest due to the underlying geology[149]; also, Gamlingay Wood SSSI[150], which holds well developed plant and animal communities[151]. Possible impacts on these SSSI sites could occur through noise and light pollution caused by new development, increased recreation use from future residents and possible loss of ecological corridors. However, due to the distance of the SSSIs from the growth option these negative effects would be minimal, and mitigation is provided through draft Local Plan policy (Nature Conservation) with a likely residual neutral effect. Within the growth location option there is a County Wildlife Site (CWS) and some small areas of Deciduous Woodland Priority Habitat, with additional CWSs a short distance to the east. Potential	**+?**

[147] Central Bedfordshire Council GIS layers (2017)
[148] Ibid.
[149] Weaveley & Sand Wood Citation (1983) [Online 2016] http://www.sssi.naturalengland.org.uk/citation/citation_photo/1003181.pdf
[150] DEFRA (2016) Magic Map Application
[151] Gamlingay Wood Citation (1983) [Online 2016] http://www.sssi.naturalengland.org.uk/citation/citation_photo/1001138.pdf

Growth Location: Tempsford South and Tempsford Airfield **Number of Dwellings:** New settlement up to 7000 homes		
	negative effects are mitigated through draft Local Plan policy (Nature Conservation) and draft Local Plan policy (Enhancing Ecological Networks) that further seeks to ensure that development positively contributes to biodiversity. The option is not located within the biodiversity elements of the Priority Corridors as set out in the Central Bedfordshire Nature Conservation Strategy[152] & Strategic Green Infrastructure Plan. Whilst new development can provide biodiversity enhancements, these would not progress strategic aims with less possibilities for positive effects. Therefore, there is the potential for minor positive effects in the longer term but uncertain at this stage until more detailed studies.	
13. Landscape Protect and enhance the landscape and townscape	The option is not located adjacent to or within the designated AONB landscape and therefore, no major significant negative effects. The option is predominantly within the Bedfordshire Greensand Ridge National Character Area[153], and the statements of environmental opportunity identify the need to protect long open views and high levels of tranquillity, as well as the Ridge's aquifer. Development in this broad location is considered likely to impact upon the open character and levels of tranquillity with the potential for minor long term negative effects. Mitigation possibilities uncertain until further studies undertaken.	**-**
14. Historic Environment To ensure the protection and enhancement of heritage assets, the historic environment and its setting	Growth in this option would be in close proximity to a Listed Building at Gibraltar Farm (Gibraltar Farm Barn) in the east, as well as the Biggin Wood moated enclosure Scheduled Monument (and Archaeological Notification Area) in the west and within the setting of the Woodbury Moated Site, Scheduled Monument. Records[154] indicate that Biggin Wood is an above average example of a Bedfordshire moated enclosure, and is thought to include the remains of the important residence of Everton Biggin manor. Mitigation is provided through draft Local Plan policy (Built Heritage) which should ensure development does not lead to any significant effects on the setting of the Listed Building and Scheduled Monument, with the potential for a residual neutral effect. There remains an element of uncertainty until site level assessments have been completed.	**0?**

[152] Central Bedfordshire Council (2015) Central Bedfordshire Nature Conservation Strategy
[153] LUC for Central Bedfordshire Council Landscape Character Areas (2015)
[154] https://historicengland.org.uk/listing/the-list/list-entry/1012451

Growth Location: Wixams South **Number of Dwellings:** up to 1000 homes		
SA Objective	**Assessment of Effects** **Nature of the likely sustainability effect (including positive/negative, short - medium term (5-10 years)/long term (10 - 20 years plus), permanent/temporary, secondary, cumulative and synergistic); Uncertainty**	
1. Housing To ensure that the housing needs of all residents and communities are met	The delivery of up to 1000 new homes can make a significant contribution to achieving the overall housing needs of Central Bedfordshire with the potential for major long-term positive effects. It is assumed that development at the growth location can meet the policy objectives of draft Local Plan policy (Housing Mix) to provide an appropriate mix of housing types, tenures and sizes.	++
2. Communities[155] To maintain and enhance community and settlement identities	Development in this area will not result in the loss of any Green Belt land and neutral effects. Housing growth in this broad location will expand the urban area of Wixams south and contribute to coalescence between Wixams and Wilstead, although the A6 creates a barrier between the two settlements. There is the potential for coalescence with Houghton Conquest in the south. The contribution to coalescence of the settlements is considered to have the potential for minor long term negative effects on community identities; some uncertainty at this stage of assessment.	0 -?
3. Services & Facilities To improve accessibility to services and facilities[156]	Development at the growth location is in close proximity to services and facilities available within Wixams. Wilstead, Houghton Conquest and Bedford. Given the scale of development at the site it is considered that there is also the potential for significant provisions to support improved accessibility in this area, with the potential for a major long term positive effect against SA Objective 3. This is supported by draft Local Plan policy (Connectivity and Accessibility).	++
4. Employment To support the	The growth location has been identified for the development of housing and as such is unlikely to lead to any significant effects against this SA Objective, with the potential for a neutral effect.	0 +

[155] Please note that first symbol relates to location in/out of Green Belt designation; second symbol relates to effects on integration & identity for existing settlements
[156] This relates to the provision of services and facilities, such as schools, healthcare centres, shops, and hospitality (café, restaurant, pub).

Growth Location: Wixams South **Number of Dwellings:** up to 1000 homes		
economy and ensure that there are suitable opportunities for employment	The location is in close proximity to Bedford as a major employment source for Central Bedfordshire and is located in close proximity a strategic rail connection route which is likely to increase accessibility to employment areas and support the vitality and viability of the town centre, with the potential for minor long term and cross-boundary positive effects.	
5. Health & Equality To improve the health and wellbeing of communities and reduce inequalities	The growth location is not in an area of higher deprivation and thus unlikely to lead to any significant effects. The Environmental Framework[157] identifies that this area is not located within a priority corridor of the strategic green infrastructure network, however development in this area can also support the objectives of the Community Forest of Marston Vale and support increased connectivity and regenerate land marred by industrialisation (from the brick making industry). It is considered therefore that development in this area has the potential to support green infrastructure priorities and have major long-term positive effects against SA Objective 5.	**0** **++**
6. Highways & Air Quality To maintain and improve the existing highway network and reduce associated indirect impacts on air quality and greenhouse gas emissions.	Early transport modelling[158] identifies that infrastructure improvements would be crucial given the level of stress on the strategic routes in this area, including the A6 and Ampthill Road to Bedford and south on the A6. However, any increase in traffic could potentially be mitigated through good access to public transport networks. Given the scale of development is it anticipated that development can provide significant infrastructure investment, and mitigation is provided through draft Local Plan policy (Strategic Transport Improvements, Mitigation of Transport Impacts on the Network, Connectivity and Accessibility, Development and Public Transport Interchanges and Low Emission Vehicles) with the potential for a residual neutral effect with an element of uncertainty at this stage. There is an AQMA in Ampthill[159]. However, the broad area option is located some distance from the AQMA such that mitigation measures should be effective with likely neutral effects.	**0?**

[157] http://www.centralbedfordshire.gov.uk/environment/natural/environmental-framework.aspx
[158] Aecom (2016) Technical Note Stage 1A Growth Area Analysis
[159] https://uk-air.defra.gov.uk/aqma/maps

Growth Location: Wixams South **Number of Dwellings:** up to 1000 homes		
7. Sustainable Transport To encourage a demonstrable modal shift and reduce the need to travel.	The location is well connected to the existing urban area of Wixams, and there is a railway connection relatively close at Kempston Hardwick. Development should seek to enhance access to the railway station with the potential for a minor long term positive effect. There is a proposed station at Wixams main settlement, that once built out will have significant positive effects for sustainable transport in the area – connections to Bedford and south to Luton and London.	+
8. Energy & Climate Change To maximise the potential for energy efficiency, reduce greenhouse gas emission and ensure that the built and natural environment and its communities withstand the effects of climate change[160]	Given the potential sustainable transport connections identified against SA Objective 7 it is anticipated that development in this growth location can support a continued reduction in GHG emissions, this is further supported by draft Local Plan policy (Connectivity and Accessibility). It is further anticipated that through compliance with draft Local Plan policy (Successful and Sustainable Places,) development could achieve policy targets for energy efficiency, high quality design standards that ensure resilience to the effects of climate change and offer potential opportunities for renewable energy production. There may be an opportunity to connect to heat network of the proposed Energy from Waste Facility at Rookery Pit South. Potential for a long term minor positive effect but some uncertainty at this stage.	+?
9. Water Resources & Quality To minimise the demand for water and maintain or improve water quality	The Water Cycle Study identifies that this location lies within the Upper Bedford and Ouse catchment, where the main pressure on water resources is the abstraction of water for public supply. Abstraction for consumption is only available for up to 32% of the time and 25% of licenses in the area are time limited and tied to a Common End Date (CED) of March 2028. It is also recognised[161] that one of the most likely effects of climate change to impact upon Central Bedfordshire will be a shortage of water resources. The Ruthamford South Water Resource Zone (WRZ) is predicted to be in supply-demand deficit by 2026/27 as a result of growth and reduced yield. There are no strategic limitations on development growth as Water Companies have a statutory duty to supply water; however, capacity for providing additional supply varies & any new infrastructure requirements have to be aligned with Water Resources Management Plans. The addition of 1000 new homes in this area is therefore considered to have the potential for	0

[160] Please note that Flood Risk is considered by the SA within objective number 10
[161] LDA Design (2012) Central Bedfordshire Climate Change Adaptation Evidence Base Final Report

Growth Location: Wixams South **Number of Dwellings:** up to 1000 homes		
	cumulative effects on water resources but uncertainty until the scale & location is identified and the Water Cycle Study Phase 2 is undertaken. Rivers in the vicinity of the growth location are considered to be in a moderate overall water body class. The majority of watercourses in the Plan area are not currently meeting 'good' classification and the most common reason for this is 'pollution from waste water'. The Water Cycle Study identifies that all WwTWs have some capacity within their existing quality permits to accommodate future development without causing a class of 10% deterioration, however in some settlements the available capacity is quite small, and in some cases development may also require WwTW upgrades. With draft Local Plan Policies on Climate Change & Sustainability, Water Quality and Pollution, strong mitigation measures are in place to ensure at least neutral effects on water quality, and ensure that development supports local WRMPs with high water efficiency targets.	
10. Flood Risk To reduce the risk of flooding from all sources	Though there are areas of flood risk within the location option[162], in line with draft Local Plan policy (Flood Risk Management) it is expected that development would avoid these areas with the potential for a residual neutral effect. Draft Local Plan policy (Successful and Sustainable Places) requires development to maximise opportunities for Sustainable Drainage Systems, where applicable, and there may be possibilities for enhanced effects to help resolve existing flooding problems with the potential for some positive effects but uncertain at this stage of appraisal. Likely residual neutral effects.	**0**
11. Soil To protect and conserve soil	Development in this broad location will predominantly result in the loss of greenfield land with the potential for minor long-term negative effects. Grade 3 best and most versatile (sub-grade3a or 3b not known)[163] agricultural land has been identified within the broad location at this stage[164], however it is recognised that there remains an element of uncertainty in the agricultural land classification until lower level site assessments have	**-?**

[162] Environment Agency (2016) Flood Map for Planning
[163] Central Bedfordshire Council GIS layers (2017)
[164] DEFRA (2016) Magic Map Application

Growth Location: Wixams South **Number of Dwellings:** up to 1000 homes		
	been completed. Given that the location is greenfield land, development is unlikely to contain or require remediation for any contaminated land, however it should be noted that this is under the assumption that the broad area does not contain any of the Wilstead Industrial Park land.	
12. Biodiversity & Geodiversity To protect, enhance and manage biodiversity & geodiversity	There is no internationally designated biodiversity in or around the proposed growth location. South of the growth location is Kings Wood and Glebe Meadows SSSI and Local Nature Reserve (LNR)[165] an example of ash/maple woodland[166]. South of the growth location is also a cluster of SSSI sites, Maulden Heath SSSI, Maulden Wood and Pennyfather's SSSI and Maulden Church Meadow SSSI and Local Nature Reserve (LNR)[167]. Development in this growth location could result in a range of negative effects on the SSSI sites, which includes an increase in traffic along the A6 which passes directly by three of the SSSI sites. The increase in traffic would result in an increase in atmospheric pollutants, noise pollution and light pollution resulting in negative effects on the SSSIs. Other negative effects stemming from development include an increase in recreational use of the sites resulting in disturbance and damage. Mitigation is provided through draft Local Plan policy (Nature Conservation) which ensures that development will not adversely affect designated biodiversity. There are a number of County Wildlife Sites (CWS) in the land surrounding the growth location, with the land to the west having the highest number of CWSs due to the presence of abandoned quarry pits and lakes which have since been designated as wildlife sites[168]. Development at the growth location could negatively affect the CWSs by increasing traffic along the B530 which passes directly adjacent to the sites to the west. There are a small range of Priority Habitats in the land surrounding the growth location, which includes areas of Deciduous Woodland Priority Habitat to the west and south of the growth location and some small areas of Lowland Meadows Priority Habitat to the east and south. However, mitigation is provided through draft Local Plan policy (Nature Conservation) seeks to ensure that development does not adversely affect designated sites, and draft Local Plan policy (Enhancing Ecological Networks) further seeks to ensure that development positively contributes to biodiversity. The growth location is not located in the biodiversity network, however the land to the west, around the CWSs, is in the biodiversity network. The Greensand Ridge Nature Improvement Area	+

[165] DEFRA (2016) Magic Map Application
[166] Kings Wood and Glebe Meadows Citation (1998) [Online: 2016] http://www.sssi.naturalengland.org.uk/citation/citation_photo/1000638.pdf
[167] DEFRA (2016) Magic Map Application
[168] Ibid.

Growth Location: Wixams South **Number of Dwellings:** up to 1000 homes		
	(NIA) is also just south of the growth location. Therefore, there is the scope to make a range of improvements to the local biodiversity network. The creation of new ecological corridors that links the biodiversity network to the west with the biodiversity network further south of the growth location could incorporate the SSSI and LNR sites in the area with wide ranging benefits for local wildlife. Enhancing connections between the growth location and the NIA through the creation of new ecological corridor or 'stepping stone' sites would enhance the ecological value of both the areas. The growth location is also located in the Forest of Marston Vale. Development in this broad location could help support the objectives of the Forest of Marston Vale. These enhancements would help meet the aims of the Central Bedfordshire Nature Conservation Strategy[169] and the Central Bedfordshire Environmental Framework[170]. Overall it is considered that there is the potential for long-term minor positive effects.	
13. Landscape Protect and enhance the landscape and townscape	This growth location is not located adjacent to or within the designated AONB landscape. The broad location is within the Bedfordshire and Cambridgeshire Claylands National Character Area, and the statements of environmental opportunity identify the potential to create high quality green infrastructure (identified against SA Objective 5) and landscape regeneration in new development and the need to protect the aquifers and quality of the River Great Ouse. Development in this broad location is considered overall to support these objectives with the potential for minor long term positive effects against SA Objective 13 with an element of uncertainty at this stage.	**+**
14. Historic Environment To ensure the protection and enhancement of heritage assets, the historic environment and its setting	The growth location does not contain any Archaeological Notification Areas. The broad location does not contain any designated heritage assets, however it is located in close proximity to Listed Buildings in Wilstead, particularly around Duck End Farm. Given the scale of development at this location it is likely to affect the open countryside setting of these Listed Buildings. Mitigation is provided through draft Local Plan policy (Built Heritage) which should ensure development does not lead to any significant effects on the settings of the Listed Buildings, with the potential for a residual neutral effect. There remains an element of uncertainty until site level assessments have been completed.	**0?**

[169] Central Bedfordshire Council (2015) Central Bedfordshire Nature Conservation Strategy
[170] Central Bedfordshire Council (no date) Environmental Framework

Growth Location: Area A Villages **Number of Dwellings:** up to 2000 homes dispersed through villages		
SA Objective	**Assessment of Effects** **Nature of the likely sustainability effect (including positive/negative, short - medium term (5-10 years)/long term (10 - 20 years plus), permanent/temporary, secondary, cumulative and synergistic); Uncertainty**	
1. Housing To ensure that the housing needs of all residents and communities are met	Development in the villages located within area A has the potential for positive effects on housing by meeting the housing needs of the local population, and potentially providing a mix of development which could meet the needs of different members of communities, with a minor positive effect but some uncertainty at this stage as depends upon precise locations.	**+?**
2. Communities[171] To maintain and enhance community and settlement identities	Development in this area would necessitate the release of Green Belt with a major negative effect. Some of the Green Belt land in the area has been shown to only have a weak contribution to the Green Belt, and therefore development within the area could be guided accordingly to avoid areas of Green Belt land at this stage uncertainty remains. There is a risk of the coalescence of individual settlements within the area as a cumulative result of proposed development, and this could have a negative effect on the separate identities of both communities and settlements with a resulting major negative effect – but much uncertainty at this stage as the location of dispersal and at which villages is unknown, mitigation may be possible by locational specificity.	**--?** **--?**
3. Services & Facilities To improve accessibility to services and facilities[172]	Development has the potential to provide new services and facilities within the local villages, or enhance existing provision. Development can be guided towards the villages which have existing services/facilities, overall potential for a minor positive effect.	**+?**

[171] Please note that first symbol relates to location in/out of Green Belt designation; second symbol relates to effects on integration & identity for existing settlements
[172] This relates to the provision of services and facilities, such as schools, healthcare centres, shops, and hospitality (café, restaurant, pub).

4. Employment To support the economy and ensure that there are suitable opportunities for employment	No employment land is being proposed, with a neutral effect. Potential for a minor positive effect as development in the area has the potential to improve and support the vitality of local villages and support the economy by using local services/facilities.	**0**	**+?**
5. Health & Equality To improve the health and wellbeing of communities and reduce inequalities	Villages in the south of the Area are near/adjacent to an area of high deprivation (Luton) and therefore development in the area has the potential to improve accessibility in these areas and reduce inequalities with the potential for minor long-term and cumulative positive effects. Development could provide enhancements to multiple green infrastructure priority corridors located in the area, and possibly provide new green infrastructure for local villages, with a minor positive effect on health.	**+?**	**+?**
6. Highways & Air Quality To maintain and improve the existing highway network and reduce associated indirect impacts on air quality and greenhouse gas emissions	The area has a largely rural road network, and development will lead to an increase in traffic on the local road network. An increase in traffic has the potential for an increase in congestion in local villages and rural roads where existing congestion may be an issue, with a minor negative effect. Development could be guided towards areas where there is easy access to the major road network and where there are no identified congestion issues.	**-**	
7. Sustainable Transport To encourage a demonstrable modal shift and reduce the need to travel	Development in the area could provide new sustainable transport links in the form of bus stops, footpaths or cycle paths with a minor positive effect. Enhancements to the existing sustainable transport network could also be provided, and development could either be guided towards areas where there are existing transport links, or guided towards area where development has the potential to provide enhancements, with an overall minor positive effect.	**+?**	
8. Energy & Climate Change To maximise the potential for energy efficiency, reduce greenhouse gas emission and ensure that the built and natural environment and its	Development in the area has the potential to improve or provide new sustainable transport links which will help reduce greenhouse gas emissions in the area. Furthermore, through compliance with draft Local Plan policy (Successful and Sustainable Places,) development in the area could achieve policy targets for energy efficiency, high quality design standards that ensure resilience to the effects of climate change and offer potential opportunities for renewable energy production. Overall minor positive effect.	**+?**	

communities withstand the effects of climate change[173]		
9. Water Resources & Quality To minimise the demand for water and maintain or improve water quality	With draft Local Plan Policies on Climate Change & Sustainability, Water Quality and Pollution, strong mitigation measures are in place to ensure at least neutral effects on water quality, and ensure that development in the area supports local WRMPs with high water efficiency targets.	**0**
10. Flood Risk To reduce the risk of flooding from all sources	Though there are areas of flood risk within the area, in line with draft Local Plan policy (Flood Risk Management) it is expected that development would avoid these areas with the potential for a residual neutral effect.	**0**
11. Soil To protect and conserve soil	Development in the area has the potential to result in the loss of best and most versatile agricultural land (Grade 1 and 2), and will also result in the loss of greenfield land, with a minor negative effect.	**- ?**
12. Biodiversity & Geodiversity To protect, enhance and manage biodiversity & geodiversity	Within the area there are numerous local and national biodiversity designated sites, as well as areas of Priority Habitat. Development could result in the loss or fragmentation of Priority Habitat, or increase pressures on designated sites with negative effects on biodiversity. However, there is Policy mitigation (Nature Conservation, Enhancing Ecological Networks) which will ensure biodiversity is protected. Development has the potential to enhance local biodiversity by providing habitat linkages, improving awareness of local biodiversity through studies and education, and using ecologically appropriate landscaping. Potential for a minor positive effect.	**+?**
13. Landscape Protect and enhance the landscape and townscape	The area where development could be located is within the Green Belt, and therefore would result in the loss of Green Belt land, with the potential for major negative effects on landscape. Overall potential for a major negative effect as the effectiveness of any mitigation measures is	**--?**

[173] Please note that Flood Risk is considered by the SA within objective number 10

	uncertain at this stage.	
14. Historic Environment To ensure the protection and enhancement of heritage assets, the historic environment and its setting	Throughout the area there are numerous heritage designations, including Conservation Areas, Listed Buildings, Archaeological Notification Areas and Scheduled Monuments. Development could have a negative effect, including on the setting of local heritage. However, mitigation is provided through draft Local Plan policy (Built Heritage) which will protect heritage, and development can be guided away from areas with particular heritage/historic sensitivity, with the potential for a residual neutral effect.	**0?**
There is some uncertainty remaining at this stage of assessment for many of the SA Objectives as the specific location of smaller development in villages and dispersed throughout the area is not yet known.		

Growth Location: Area B Villages **Number of Dwellings:** up to 2000 homes dispersed through the Villages		
SA Objective	**Assessment of Effects** **Nature of the likely sustainability effect (including positive/negative, short - medium term (5-10 years)/long term (10 - 20 years plus), permanent/temporary, secondary, cumulative and synergistic); Uncertainty**	
1. Housing To ensure that the housing needs of all residents and communities are met	Development in the villages located within Area B has the potential for positive effects on housing by meeting the housing needs of the local population, and potentially providing a mix of development which could meet the needs of different members of communities, with a minor positive effect but some uncertainty at this stage as depends upon precise locations.	**+?**
2. Communities[174] To maintain and enhance community and settlement identities	There is no Green Belt designated land within the Area, and therefore a neutral effect. Development in the villages has the potential for negative effects on identities with minor negative effects but uncertain at this stage of assessment.	**0** **-?**
3. Services & Facilities To improve accessibility to services and facilities[175]	Development has the potential to provide new services and facilities within the local villages, or enhance existing ones. Development can be guided towards the villages which have existing services/facilities, overall potential for a minor positive effect.	**+?**
4. Employment To support the economy and ensure that there are suitable opportunities for employment	No employment land is being proposed, with a neutral effect. Potential for a minor positive effect as development in the area has the potential to improve and support the vitality of local villages and support the economy by using local services/facilities.	**0** **+?**

[174] Please note that first symbol relates to location in/out of Green Belt designation; second symbol relates to effects on integration & identity for existing settlements
[175] This relates to the provision of services and facilities, such as schools, healthcare centres, shops, and hospitality (café, restaurant, pub).

Growth Location: Area B Villages **Number of Dwellings:** up to 2000 homes dispersed through the Villages		
5. Health & Equality To improve the health and wellbeing of communities and reduce inequalities	Generally, an overall neutral effect, although there may be opportunities for development in villages that might support accessibility and the area of deprivation at Sandy. Development could provide enhancements to multiple green infrastructure priority corridors located in the area, and possibly provide new green infrastructure for local villages, with a minor positive effect on health.	**0** **+?**
6. Highways & Air Quality To maintain and improve the existing highway network and reduce associated indirect impacts on air quality and greenhouse gas emissions	There is the potential for an increase in traffic in the local areas because of development. There are existing congestion issues in the area, and the areas road network is predominantly rural with the exception of the A1. There is the potential for an increase in congestion in local villages and rural roads where existing congestion is an issue, with a minor negative effect. Development could be guided towards areas where there is easy access to the major road network and where there are no identified congestion issues.	**-?**
7. Sustainable Transport To encourage a demonstrable modal shift and reduce the need to travel	Sustainable transport links in the area include bus routes and a railway line. Development could provide enhancements to local sustainable transport, provide new sustainable transport routes such as footpaths and cycle paths, and could be located close to existing links, with a minor positive effect.	**+?**
8. Energy & Climate Change To maximise the potential for energy efficiency, reduce greenhouse gas emission and ensure that the built and natural environment and its communities withstand the	Development in the area has the potential to improve or provide new sustainable transport links which will help reduce greenhouse gas emissions in the area. Furthermore, through compliance with draft Local Plan policy (Successful and Sustainable Places,) development in the area could achieve policy targets for energy efficiency, high quality design standards that ensure resilience to the effects of climate change and offer potential opportunities for renewable energy production. Overall minor positive effect.	**+?**

Growth Location: Area B Villages **Number of Dwellings:** up to 2000 homes dispersed through the Villages		
effects of climate change[176]		
9. Water Resources & Quality To minimise the demand for water and maintain or improve water quality	With draft Local Plan Policies on Climate Change & Sustainability, Water Quality and Pollution, strong mitigation measures are in place to ensure at least neutral effects on water quality, and ensure that development in the area supports local WRMPs with high water efficiency targets.	**0**
10. Flood Risk To reduce the risk of flooding from all sources	Though there are areas of flood risk within the area, in line with draft Local Plan policy (Flood Risk Management) it is expected that development would avoid these areas with the potential for a residual neutral effect.	**0**
11. Soil To protect and conserve soil	Development in the area has the potential to result in the loss of greenfield land and best and most versatile agricultural land (Grade 1 and 2), with a minor negative effect.	**- ?**
12. Biodiversity & Geodiversity To protect, enhance and manage biodiversity & geodiversity	Within the area there are numerous local and national biodiversity designated sites, as well as areas of Priority Habitat. Development could result in the loss or fragmentation of Priority Habitat, or increase pressures on designated sites with negative effects on biodiversity. However, there is Policy mitigation (Nature Conservation, Enhancing Ecological Networks) which will ensure biodiversity is protected. Development has the potential to enhance local biodiversity by providing habitat linkages, improving awareness of local biodiversity through studies and education, and using ecologically appropriate landscaping. Potential for a minor positive effect.	**+?**

[176] Please note that Flood Risk is considered by the SA within objective number 10

Growth Location: Area B Villages **Number of Dwellings:** up to 2000 homes dispersed through the Villages		
13. Landscape Protect and enhance the landscape and townscape	Development within the villages has the potential to affect the rural nature of the landscape, with development potentially being located in areas which have a high landscape sensitivity. Potential for a minor negative effect.	**-?**
14. Historic Environment To ensure the protection and enhancement of heritage assets, the historic environment and its setting	Throughout the area there are numerous heritage designations, including Conservation Areas, Listed Buildings, Archaeological Notification Areas and Scheduled Monuments. Development could have a negative effect, including on the setting of local heritage. However, mitigation is provided through draft Local Plan policy (Built Heritage) which will protect heritage, and development can be guided away from areas with particular heritage/historic sensitivity, with the potential for a residual neutral effect.	**0?**
There is some uncertainty remaining at this stage of assessment for many of the SA Objectives as the specific location of smaller development in villages and dispersed throughout the area is not yet known.		

Growth Location: Area C Villages **Number of Dwellings:** up to 2000 homes dispersed through villages		
SA Objective	**Assessment of Effects** **Nature of the likely sustainability effect (including positive/negative, short - medium term (5-10 years)/long term (10 - 20 years plus), permanent/temporary, secondary, cumulative and synergistic); Uncertainty**	
1. Housing To ensure that the housing needs of all residents and communities are met	Development in the villages located within Area C has the potential for positive effects on housing by meeting the housing needs of the local population, and potentially providing a mix of development which could meet the needs of different members of communities, with a minor positive effect but some uncertainty at this stage as depends upon precise locations.	**+?**
2. Communities[177] To maintain and enhance community and settlement identities	There is no Green Belt designated land within the area, and therefore a neutral effect. Development in the villages has the potential for minor negative effects on their identities but uncertainty remains at this stage of assessment.	**0** **-?**
3. Services & Facilities To improve accessibility to services and facilities[178]	Development has the potential to provide new services and facilities within the local villages, or enhance existing ones. Development can be guided towards the villages which have existing services/facilities, with an overall potential for a minor positive effect.	**+?**
4. Employment To support the economy and ensure that there are suitable opportunities for employment	No employment land is being proposed, with a neutral effect. Potential for a minor positive effect as development in the area has the potential to improve and support the vitality of local villages and support the economy by using local services/facilities.	**0** **+?**

[177] Please note that first symbol relates to location in/out of Green Belt designation; second symbol relates to effects on integration & identity for existing settlements
[178] This relates to the provision of services and facilities, such as schools, healthcare centres, shops, and hospitality (café, restaurant, pub).

Growth Location: Area C Villages **Number of Dwellings:** up to 2000 homes dispersed through villages		
5. Health & Equality To improve the health and wellbeing of communities and reduce inequalities	Generally, overall a neutral effect as developments dispersed throughout the villages are unlikely to have any effects on identified deprived areas. Development could provide enhancements to multiple green infrastructure priority corridors as well as the Greensand Ridge Nature Improvement Area, located in the area, and possibly provide new green infrastructure for local villages, with a minor positive effect on health.	**0** **+?**
6. Highways & Air Quality To maintain and improve the existing highway network and reduce associated indirect impacts on air quality and greenhouse gas emissions	There is the potential for an increase in traffic in the local areas because of development. There are existing congestion issues in the area, and the areas road network is predominantly rural with the exception of the A6 and the A421. There is the potential for an increase in congestion in local villages and rural roads where existing congestion is an issue, with a minor negative effect. Development could be guided towards areas where there is easy access to the major road network and where there are no identified congestion issues.	**-**
7. Sustainable Transport To encourage a demonstrable modal shift and reduce the need to travel	Sustainable transport links in the area include bus routes and a railway line. Development could provide enhancements to local sustainable transport, provide new sustainable transport routes such as footpaths and cycle paths, and could be located close to existing links, with a minor positive effect.	**+?**
8. Energy & Climate Change To maximise the potential for energy efficiency, reduce greenhouse gas emission and ensure that the built and natural environment and its communities withstand the	Development in the area has the potential to improve or provide new sustainable transport links which will help reduce greenhouse gas emissions in the area. Furthermore, through compliance with draft Local Plan policy (Successful and Sustainable Places,) development in the area could achieve policy targets for energy efficiency, high quality design standards that ensure resilience to the effects of climate change and offer potential opportunities for renewable energy production. Overall minor positive effect.	**+?**

Growth Location: Area C Villages **Number of Dwellings:** up to 2000 homes dispersed through villages		
effects of climate change[179]		
9. Water Resources & Quality To minimise the demand for water and maintain or improve water quality	With draft Local Plan Policies on Climate Change & Sustainability, Water Quality and Pollution, strong mitigation measures are in place to ensure at least neutral effects on water quality, and ensure that development in the area supports local WRMPs with high water efficiency targets.	**0**
10. Flood Risk To reduce the risk of flooding from all sources	Though there are areas of flood risk within the area, in line with draft Local Plan policy (Flood Risk Management) it is expected that development would avoid these areas with the potential for a residual neutral effect.	**0**
11. Soil To protect and conserve soil	Development in the area has the potential to result in the loss of greenfield land and best and most versatile agricultural land (Grade 1 and 2), with a minor negative effect.	**- ?**
12. Biodiversity & Geodiversity To protect, enhance and manage biodiversity & geodiversity	Within the area there are numerous local and national biodiversity designated sites, as well as areas of Priority Habitat. Development could result in the loss or fragmentation of Priority Habitat, or increase pressures on designated sites with negative effects on biodiversity. However, there is Policy mitigation (Nature Conservation, Enhancing Ecological Networks) which will ensure biodiversity is protected. Development has the potential to enhance local biodiversity by providing habitat linkages, improving awareness of local biodiversity through studies and education, and using ecologically appropriate landscaping. Potential for a minor positive effect. Potential to provide improvements to the Greensand Ridge Nature Improvement Area and the Marston Vale Community Forest also.	**+?**

[179] Please note that Flood Risk is considered by the SA within objective number 10

Growth Location: Area C Villages **Number of Dwellings:** up to 2000 homes dispersed through villages		
13. Landscape Protect and enhance the landscape and townscape	Development within the villages has the potential to affect the rural nature of the landscape, with development potentially being located in areas which have a high landscape sensitivity. Potential for a minor negative effect.	**-?**
14. Historic Environment To ensure the protection and enhancement of heritage assets, the historic environment and its setting	Throughout the area there are numerous heritage designations, including Conservation Areas, Listed Buildings, Archaeological Notification Areas and Scheduled Monuments. Development could have a negative effect, including on the setting of local heritage. However, mitigation is provided through draft Local Plan policy (Built Heritage) which will protect heritage, and development can be guided away from areas with particular heritage/historic sensitivity, with the potential for a residual neutral effect.	**0?**
There is some uncertainty remaining at this stage of assessment for many of the SA Objectives as the specific location of smaller development in villages and dispersed throughout the area is not yet known.		

Growth Location: Area D Villages **Number of Dwellings:** up to 2000 homes dispersed through the villages		
SA Objective	**Assessment of Effects** **Nature of the likely sustainability effect (including positive/negative, short - medium term (5-10 years)/long term (10 - 20 years plus), permanent/temporary, secondary, cumulative and synergistic); Uncertainty**	
1. Housing To ensure that the housing needs of all residents and communities are met	Development in the villages located within Area D has the potential for positive effects on housing by meeting the housing needs of the local population, and potentially providing a mix of development which could meet the needs of different members of communities, with a minor positive effect but some uncertainty at this stage as depends upon precise locations.	**+?**
2. Communities[180] To maintain and enhance community and settlement identities	There is no Green Belt designated land within the area, and therefore a neutral effect. Development in the villages has the potential for minor negative effects on identities but uncertainty at this stage.	**0** **-?**
3. Services & Facilities To improve accessibility to services and facilities[181]	Development has the potential to provide new services and facilities within the local villages, or enhance existing ones. Development can be guided towards the villages which have existing services/facilities, with an overall potential for a minor positive effect.	**+?**
4. Employment To support the economy and ensure that there are suitable opportunities for employment	No employment land is being proposed, with a neutral effect. Potential for a minor positive effect as development in the area has the potential to improve and support the vitality of local villages and support the economy by using local services/facilities.	**0** **+?**

[180] Please note that first symbol relates to location in/out of Green Belt designation; second symbol relates to effects on integration & identity for existing settlements
[181] This relates to the provision of services and facilities, such as schools, healthcare centres, shops, and hospitality (café, restaurant, pub).

Growth Location: Area D Villages **Number of Dwellings:** up to 2000 homes dispersed through the villages		
5. Health & Equality To improve the health and wellbeing of communities and reduce inequalities	Area D does not have any an identified high level of deprivation, and therefore, a neutral effect. Development could provide enhancements to multiple green infrastructure priority corridors as well as the Greensand Ridge Nature Improvement Area and Marston Vale Community Forest, located in the area, and possibly provide new green infrastructure for local villages, with a minor positive effect on health.	**0** **+?**
6. Highways & Air Quality To maintain and improve the existing highway network and reduce associated indirect impacts on air quality and greenhouse gas emissions	There is the potential for an increase in traffic in the local areas because of development. There are existing congestion issues in the area, and the areas road network is predominantly rural with the exception of the M1. There is the potential for an increase in congestion in local villages and rural roads where existing congestion is an issue. Development could be guided towards areas where there is easy access to the major road network and where there are no identified congestion issues.	**-**
7. Sustainable Transport To encourage a demonstrable modal shift and reduce the need to travel	Sustainable transport links in the area include bus routes and a railway line. Development could provide enhancements to local sustainable transport, provide new sustainable transport routes such as footpaths and cycle paths, and could be located close to existing links, with a minor positive effect.	**+?**
8. Energy & Climate Change To maximise the potential for energy efficiency, reduce greenhouse gas emission and ensure that the built and natural environment and its communities withstand the	Development in the area has the potential to improve or provide new sustainable transport links which will help reduce greenhouse gas emissions in the area. Furthermore, through compliance with draft Local Plan policy (Successful and Sustainable Places,) development in the area could achieve policy targets for energy efficiency, high quality design standards that ensure resilience to the effects of climate change and offer potential opportunities for renewable energy production. Overall minor positive effect.	**+?**

Growth Location: Area D Villages **Number of Dwellings:** up to 2000 homes dispersed through the villages		
effects of climate change[182]		
9. Water Resources & Quality To minimise the demand for water and maintain or improve water quality	With draft Local Plan Policies on Climate Change & Sustainability, Water Quality and Pollution, strong mitigation measures are in place to ensure at least neutral effects on water quality, and ensure that development in the area supports local WRMPs with high water efficiency targets.	**0**
10. Flood Risk To reduce the risk of flooding from all sources	Though there are areas of flood risk within the area, in line with draft Local Plan policy (Flood Risk Management) it is expected that development would avoid these areas with the potential for a residual neutral effect.	**0**
11. Soil To protect and conserve soil	Development in the area has the potential to result in the loss of greenfield land and best and most versatile agricultural land (Grade 1 and 2), with a minor negative effect.	**- ?**
12. Biodiversity & Geodiversity To protect, enhance and manage biodiversity & geodiversity	Within the area there are numerous local and national biodiversity designated sites, as well as areas of Priority Habitat. Development could result in the loss or fragmentation of Priority Habitat, or increase pressures on designated sites with negative effects on biodiversity. However, there is Policy mitigation (Nature Conservation, Enhancing Ecological Networks) which will ensure biodiversity is protected. Development has the potential to enhance local biodiversity by providing habitat linkages, improving awareness of local biodiversity through studies and education, and using ecologically appropriate landscaping. Potential for a minor positive effect. Potential to provide improvements to the Greensand Ridge Nature Improvement Area and the Marston Vale Community Forest also.	**+?**

[182] Please note that Flood Risk is considered by the SA within objective number 10

Growth Location: Area D Villages **Number of Dwellings:** up to 2000 homes dispersed through the villages		
13. Landscape Protect and enhance the landscape and townscape	Development within the villages has the potential to affect the rural nature of the landscape, with development potentially being located in areas which have a high landscape sensitivity. Potential for a minor negative effect.	**-?**
14. Historic Environment To ensure the protection and enhancement of heritage assets, the historic environment and its setting	Throughout the area there are numerous heritage designations, including Conservation Areas, Listed Buildings, Archaeological Notification Areas and Scheduled Monuments. Development could have a negative effect, including on the setting of local heritage. However, mitigation is provided through draft Local Plan policy (Built Heritage) which will protect heritage, and development can be guided away from areas with particular heritage/historic sensitivity, with the potential for a residual neutral effect.	**0?**
There is some uncertainty remaining at this stage of assessment for many of the SA Objectives as the specific location of smaller development in villages and dispersed throughout the area is not yet known.		

Strategic Employment Growth Location Options tested through SA:

PBA[183] Ref Nos	Area A-D	Strategic Employment Growth Location Option	Number of Jobs
	A	Sundon Rail Freight Interchange	2,300
	B	Biggleswade, West of A1	2,000
	C	Ridgmont, M1 Junction 13	1,700

[183] PBA for Central Bedfordshire Strategic Employment Growth Studies (March 2017)

Growth Location: Sundon Rail Freight Interchange **Employment Land/Jobs: up to 2300 new jobs**		
SA Objective	**Assessment of Effects** **Nature of the likely sustainability effect (including positive/negative, short - medium term (5-10 years)/long term (10 - 20 years plus), permanent/temporary, secondary, cumulative and synergistic); Uncertainty**	
1. Housing To ensure that the housing needs of all residents and communities are met	No housing is being proposed as part of this employment growth location. Likely neutral effect.	**0**
2. Communities To maintain and enhance community and settlement identities	The employment growth option is located within the Green Belt. The Green Belt Study[184] identifies the land as located within Parcel L2, all of which is considered to make a strategic contribution to the purposes of Green Belt. Development therefore has the potential for major long term negative effects. The development of employment land is unlikely to significantly affect the identity of any settlement as it is not located within or directly adjacent to a settlement but rather alongside the railway line, although Sundon village is nearby. Potential for neutral effects on settlement identity.	**--** **0**
3. Services & Facilities To improve accessibility to services and facilities[185]	Given the scale of the employment growth location option it is likely that sufficient services and facilities can be provided on site to satisfy the needs of the employees on site, without the need to travel offsite. Despite this, the option is in close proximity to the major settlements of Luton, Houghton Regis and Dunstable which offer a wide range of service and facility provisions. Development at the location is unlikely to lead to any significant effects against this SA Objective.	**0**

[184] LUC for Central Bedfordshire Council Green Belt Study (October, 2016)
[185] This relates to the provision of services and facilities, such as schools, healthcare centres, shops, and hospitality (café, restaurant, pub).

4. Employment To support the economy and ensure that there are suitable opportunities for employment	The option will deliver new employment land and jobs to support the economy with the potential for major long term positive effects. The location is adjacent to a railway line in close proximity to Harlington and Leagrave railway stations, and also has the potential to create a new railway station to allow for increased access. Potential for major long term cumulative positive effects. The proximity of Luton, Houghton Regis and Dunstable indicate opportunities to support and enhance the vitality and viability of town centres with further positive effects.	++	++
5. Health & Equality To improve the health and wellbeing of communities and reduce inequalities	The growth location option is not in an area of higher deprivation and therefore, no significant effects. The Environmental Framework[186] identifies this area as located within The Chalk Arc, a priority corridor of the strategic green infrastructure network. The priority corridor is identified as an area where investment and project delivery can make most impact in securing multi-functional green infrastructure. Of importance is The Chalk Arc Project[187] that focuses on securing green space in and around proposed housing growth. The growth location is identified in the Chalk Arc Project as Area D – North Luton and Chilterns priority zone. The aim here is to improve public perception of safety at the northern end of Great Bramingham Park and increase the site's biodiversity by improving an area of chalk grassland. Development in this area could also contribute to improving the visual impact of the Friends of Gill Blowers Community Orchard and wildflower meadow. It is considered therefore that development in this area has the potential to support green infrastructure priorities and have major long-term positive effects. This is further considered to indirectly positively affect the landscape objectives of the National Character Area 110: Chilterns (see SA Objective 13). There is a SSSI and CWS within the site and there may be potential to enhance these biodiversity sites as part of the overall green infrastructure for people and wildlife (and please see SA Objective No 12 following).	0	++
6. Highways & Air Quality To maintain and improve the existing highway	Development of new employment land may generate increased traffic in this area and early transport modelling[188] identifies that development adjacent to Luton is likely to increase congestion for routes into Luton and other urban roads as well as links to the strategic highway network. Mitigation is provided through draft Local Plan policies Strategic Transport	0?	

[186] http://www.centralbedfordshire.gov.uk/environment/natural/environmental-framework.aspx
[187] http://www.bedscape.org.uk/BRMC/chalkarc/home.htm
[188] Aecom (2016) for Central Bedfordshire Council. Technical Note Stage 1A Growth Area Analysis

network and reduce associated indirect impacts on air quality and greenhouse gas emissions	Improvements, Mitigation of Transport Impacts on the Network, Connectivity and Accessibility, Development and Public Transport Interchanges and Low Emission Vehicles. Potential overall for a residual neutral effect, however there remains an element of uncertainty until site level assessments have been completed. There are 3 AQMAs in Luton[189] and one in nearby Dunstable. However, the employment growth option is located some distance from these AQMAs such that mitigation measures should be effective with likely neutral effects.	
7. Sustainable Transport To encourage a demonstrable modal shift and reduce the need to travel	The employment growth option is located adjacent to a railway line in close proximity to the existing railway stations at Harlington and Leagrave. New bus connections to the existing stations serving the site would also support sustainable transport connections with the potential for enhanced positive effects. There is significant potential for the creation of sustainable transport connections and to encourage a modal shift. Its location adjacent to major settlements in the Plan area and just outside the Plan area (Dunstable, Houghton Regis and Luton) also reduces the need to travel for many potential employees.	**++**
8. Energy & Climate Change To maximise the potential for energy efficiency, reduce greenhouse gas emission and ensure that the built and natural environment and its communities withstand the effects of climate change[190]	Given the potential sustainable transport connections identified against SA Objective 7 it is anticipated that development in this growth location can support a continued reduction in GHG emissions, this is further supported by draft Local Plan policy (Connectivity and Accessibility). It is further anticipated that through compliance with draft Local Plan policy (Successful and Sustainable Places), development could achieve policy targets for energy efficiency, high quality design standards that ensure resilience to the effects of climate change and offer potential opportunities for renewable energy production. Potential for a long term minor positive effect but some uncertainty at this stage.	**+?**
9. Water Resources & Quality To minimise the demand for water and maintain or improve water quality	The Water Cycle Study[191] identifies that this locational option lies within the Upper Lea catchment, located on unconfined chalk geology, in which there are a large number of abstraction licences for groundwater resources, utilised for supporting the public water supply and agricultural uses. There is no surface water available for licensing across this catchment at any flow level as the recent flows are below the requirement to meet a Good Ecological Status. It is identified that no new consumptive licenses for groundwater will be granted in the catchment, and the water	**0**

[189] https://uk-air.defra.gov.uk/aqma/maps
[190] Please note that Flood Risk is considered by the SA within objective number 10
[191] JBA for Central Bedfordshire Council (Jan 2017) Water Cycle Study Stage 1

	resources (for both surface and groundwater abstraction) are available less than 30% of the time, indicating pressures on the catchment for resources. It is also recognised[192] that one of the most likely effects of climate change to impact upon Central Bedfordshire will be a shortage of water resources. There are no strategic limitations on development growth as Water Companies have a statutory duty to supply water; however, capacity for providing additional supply varies & any new infrastructure requirements have to be aligned with Water Resources Management Plans. The addition of employment growth in this area is therefore considered to have the potential for cumulative effects on water resources but uncertainty until the scale & location is identified and the Water Cycle Study Phase 2 is undertaken. The River Lee through Luton has been classified as poor quality with regard to the EU Water Framework Directive, but this is not near to the employment growth locational option. The option is not within zones 1-2 of any source protection zones and with draft Local Plan Policies on Climate Change & Sustainability, Water Quality and Pollution, strong mitigation measures are in place to ensure at least neutral effects on water quality. Other draft Policies such as on Sustainable Drainage offer possibilities for enhancement through resolving existing problems but uncertain at this stage until more detailed studies.	
10. Flood Risk To reduce the risk of flooding from all sources	The broad growth location option is not in an area at risk of flooding from rivers or the sea[193]. Draft Local Plan policy (Successful and Sustainable Places) requires development to maximise opportunities for Sustainable Drainage Systems, where applicable, with the potential for some positive effects. Likely residual neutral effects.	**0**
11. Soil To protect and conserve soil	Development in this broad location option will predominantly result in the loss of greenfield land with the potential for minor long-term negative effects. There is some Grade 2 best and most versatile agricultural land in the south of the growth location and some grade 3 (sub-grade 3a or 3b no known) in the west[194].It is recognised that there remains an element of uncertainty in the agricultural land classification until lower level site assessments have been completed. Given that the location is greenfield land, development is	**-?**

[192] LDA Design (2012) Central Bedfordshire Climate Change Adaptation Evidence Base Final Report
[193] Environment Agency (2016) Flood Map for Planning
[194] Central Bedfordshire Council GIS layers (2017)

	unlikely to contain or require remediation for any contaminated land.	
12. Biodiversity & Geodiversity To protect, enhance and manage biodiversity & geodiversity	There are no internationally designated biodiversity sites in the broad growth location, with no significant negative effects likely. To the north and east of the broad growth location is Sundon Chalk Quarry SSSI, designated for the presence of Fen, Marsh and Swamp Habitat, and for Calcareous Grassland, and is noted as being one of the most important invertebrate sites in the county[195]. Fancott Woods and Meadows SSSI is located to the north west of the growth location, and is designated for its Neutral Grassland[196]. Both sites are also designated as County Wildlife Sites (CWS). Chalton Scrub & Grassland CWS is adjacent to the employment site in the south[197]. There may be possibilities to enhance these sites with positive effects for both wildlife and human health and well-being. Nationally designated Priority Habitat in the employment location is largely located to the north, north west and east, around and within the SSSI and CWS sites. This includes Lowland Fens, Lowland Calcareous Grassland, Deciduous Woodland, and Lowland Meadows Priority Habitat[198]. However, the land to the south and west of the growth location is largely clear of Priority Habitat. The employment area is within the South Totternhoe Link Biodiversity Network which also extends to the north, east and west, and the employment area is also within the Upper Lea River Valley Green Infrastructure Network[199]. Due to the site option's proximity to a SSSI site, areas of Priority Habitat and CWS sites, there is the potential for minor negative effects. Negative effects could arise from an increase in noise and light pollution, an increase in recreational pressures and an increase in atmospheric pollutants, both during and after the construction phase. This could affect wildlife in the local area, as well as have harmful effects on local habitats. However, it is considered that there is mitigation provided through draft Local Plan policy (Nature Conservation) which seeks to ensure that development does not adversely affect designated sites, and draft Local Plan policy (Enhancing Ecological Networks) further seeks to ensure that development positively contributes to biodiversity. This mitigation should ensure local biodiversity is not negatively affected by the site option, with a	**0**

[195] https://necmsi.esdm.co.uk/PDFsForWeb/Citation/1005586.pdf
[196] https://necmsi.esdm.co.uk/PDFsForWeb/Citation/1000520.pdf
[197] Stratford Council GIS layers (2017) measured using GIS distances from site edge
[198] DEFRA (2017) Magic Map Application
[199] http://www.centralbedfordshire.gov.uk/Images/environmental-framwork-v4_tcm3-14493.pdf

	likely neutral effect. The employment area has the potential to provide enhancements to the local biodiversity. New areas of habitat could be created, and the creation of ecological corridors could be used to link isolated areas of Priority Habitat to the south and east, with benefits for local wildlife movement. There is also the potential to enhance and protect undesignated biodiversity features in the local area, and link them to the South Totternhoe Link biodiversity network. Overall potential for the employment site to have a minor positive effect on biodiversity, through providing ecological enhancements beneficial to local biodiversity.	
13. Landscape Protect and enhance the landscape and townscape	The employment growth location option is in close proximity to the designated AONB landscape. Development at this scale has potential to negatively affect the AONB setting through urbanisation in a previously undeveloped area. However, it is recognised that there is existing development between the location and the AONB providing a buffer to some extent (Upper and Lower Sundon). It is considered therefore that there is the potential for minor long-term negative effects against SA Objective 13 with an element of uncertainty until site level details arise. The option is within the Chilterns National Character Area, and the statements of environmental opportunity identify the need to conserve the Chilterns' groundwater resource and secure sustainable water use (discussed further in SA Objective 9) and to create or enhance green infrastructure in relation to the urban fringe and growth areas such as Luton (discussed in SA Objective 5) to support the objectives of this landscape area.	**-?**
14. Historic Environment To ensure the protection and enhancement of heritage assets, the historic environment and its setting	The growth location does not contain any designated heritage assets. To the west of the growth location (approximately 500m away) there are a small number of Listed Buildings in Chalton, on the opposite side of the M1, and to the east (approximately 800m away) there are a small number of Listed Buildings in Lower Sundon[200]. Although there is some screening present in the form of trees and hedges, mitigation is provided through draft Local Plan policy (Built Heritage) which should ensure development does not lead to any significant effects. The growth location does not contain any Archaeological Notification Areas. Overall likely neutral effect.	**0**

[200] Stratford Council GIS layers (2017) measured using GIS distances from heritage asset

Growth Location: Biggleswade, West of A1 **Employment Land/Jobs: up to 2000 new jobs**		
SA Objective	**Assessment of Effects** **Nature of the likely sustainability effect (including positive/negative, short - medium term (5-10 years)/long term (10 - 20 years plus), permanent/temporary, secondary, cumulative and synergistic); Uncertainty**	
1. Housing To ensure that the housing needs of all residents and communities are met	No housing is being proposed as part of this employment growth location. Likely neutral effect.	**0**
2. Communities To maintain and enhance community and settlement identities	The development of employment land is unlikely to significantly affect the identity of Biggleswade. Further employment development to the west of the A1 however could affect the identity of the small hamlet of Holme with the potential for minor negative effects. It is recognised that this could be mitigated through appropriate landscape buffering, and the overall effects remain uncertain until the precise location of development is identified. Potential for overall residual neutral effects on settlement identity. The employment growth option is not located in the Green Belt.	**0** **0**
3. Services & Facilities To improve accessibility to services and facilities[201]	Given the scale of the employment growth location option it is likely that sufficient services and facilities can be provided on site to satisfy the needs of the employees on site, without the need to travel offsite. Despite this, the option is in close proximity to the settlement of Biggleswade which offers a wide range of service and facility provisions. Development at the location is unlikely to lead to any significant effects against this SA Objective.	**0**

[201] This relates to the provision of services and facilities, such as schools, healthcare centres, shops, and hospitality (café, restaurant, pub).

4. Employment To support the economy and ensure that there are suitable opportunities for employment	The option will deliver new employment land and jobs to support the economy with the potential for major long term positive effects. The location is adjacent to the settlement of Biggleswade within contains a railway station allowing for increased access. Potential for major long term cumulative positive effects. Also, opportunities for supporting and enhancing the vitality and viability of the town centre with further positive effects.	++	++
5. Health & Equality To improve the health and wellbeing of communities and reduce inequalities	The growth location option is not in an area of higher deprivation and therefore, no significant effects. The Environmental Framework[202] identifies this broad locational option as within the Ivel River Valley, a priority corridor of the strategic green infrastructure network. The priority corridor is identified as an area where investment and project delivery can make most impact in securing multi-functional green infrastructure. This will also support the objectives of the Bedfordshire and Cambridgeshire Claylands National Character Area (see SA Objective 13). It is considered therefore that development in this area has the potential to support green infrastructure priorities and have major long-term positive effects against SA Objective 5.	0	++
6. Highways & Air Quality To maintain and improve the existing highway network and reduce associated indirect impacts on air quality and greenhouse gas emissions	Though development of new employment land may generate increased traffic in this area and early transport modelling[203] identifies that all new potential growth in this area is likely to have an impact on the A1, cause further congestion and require infrastructure improvements, this is mitigated to a large degree by its location in close proximity to Biggleswade railway station, and potential for sustainable transport connections in this respect. Further mitigation is provided through draft Local Plan policies Strategic Transport Improvements, Mitigation of Transport Impacts on the Network, Connectivity and Accessibility, Development and Public Transport Interchanges and Low Emission Vehicles. Potential overall for a residual neutral effect, however there remains an element of uncertainty until site level assessments have been completed. There is an AQMA in Sandy[204]. However, the broad area option is located some distance from this such that mitigation measures should be effective with likely neutral effects.	0?	

[202] http://www.centralbedfordshire.gov.uk/environment/natural/environmental-framework.aspx
[203] Aecom (2016) for Central Bedfordshire Council. Technical Note Stage 1A Growth Area Analysis
[204] https://uk-air.defra.gov.uk/aqma/maps

7. Sustainable Transport To encourage a demonstrable modal shift and reduce the need to travel	The employment growth option is located in close proximity to Biggleswade railway station with the potential for long term positive effects. Development has the potential to extend existing bus services to enhance sustainable transport connections between the site and railway station thus encouraging a modal shift and enhancing the potential positive effects. The location adjacent to a major settlement in the Plan area also reduces the need to travel for many potential employees. However, the location is separated by the A1 and would require infrastructure in the form of a bridge or underpass to access the town and railway station, so uncertainty at this stage.	**++?**
8. Energy & Climate Change To maximise the potential for energy efficiency, reduce greenhouse gas emission and ensure that the built and natural environment and its communities withstand the effects of climate change[205]	Given the potential sustainable transport connections identified against SA Objective 7 it is anticipated that development in this growth location can support a continued reduction in GHG emissions, this is further supported by draft Local Plan policy (Connectivity and Accessibility). It is further anticipated that through compliance with draft Local Plan policy (Successful and Sustainable Places), development could achieve policy targets for energy efficiency, high quality design standards that ensure resilience to the effects of climate change and offer potential opportunities for renewable energy production. Potential for a long term minor positive effect but some uncertainty at this stage.	**+?**
9. Water Resources & Quality To minimise the demand for water and maintain or improve water quality	The Water Cycle Study identifies that this location lies within the Upper Bedford and Ouse catchment, where the main pressure on water resources is the abstraction of water for public supply. Abstraction for consumption is only available for up to 32% of the time and 25% of licenses in the area are time limited and tied to a Common End Date (CED) of March 2028. It is also recognised[206] that one of the most likely effects of climate change to impact upon Central Bedfordshire will be a shortage of water resources. The Ruthamford South Water Resource Zone (WRZ) is predicted to be in supply-demand deficit by 2026/27 as a result of growth and reduced yield. There are no strategic limitations on development growth as Water Companies have a statutory duty to supply water; however, capacity for providing additional supply varies & any new infrastructure requirements have to be aligned with Water Resources Management Plans. The addition of new employment land in this area is therefore considered to have the potential for	**0**

[205] Please note that Flood Risk is considered by the SA within objective number 10
[206] LDA Design (2012) Central Bedfordshire Climate Change Adaptation Evidence Base Final Report

	cumulative effects on water resources but uncertainty until the scale & location is identified and the Water Cycle Study Phase 2 is undertaken. Rivers in the vicinity of the growth location are considered to be in a moderate overall water body class. The majority of watercourses in the Plan area are not currently meeting 'good' classification and the most common reason for this is 'pollution from waste water'. The Water Cycle Study identifies that all WwTWs have some capacity within their existing quality permits to accommodate future development without causing a class of 10% deterioration, however in some settlements the available capacity is quite small, and in some cases development may also require WwTW upgrades. With draft Local Plan Policies on Climate Change & Sustainability, Water Quality and Pollution, strong mitigation measures are in place to ensure at least neutral effects on water quality, and ensure that development supports local WRMPs with high water efficiency targets.	
10. Flood Risk To reduce the risk of flooding from all sources	Though there are areas of flood risk to the west of the location option[207], in line with draft Local Plan policy (Flood Risk Management) it is expected that development could easily avoid these areas with the potential for a residual neutral effect. Draft Local Plan policy (Successful and Sustainable Places) requires development to maximise opportunities for Sustainable Drainage Systems, where applicable, and there may be possibilities for enhanced effects to help resolve existing flooding problems with the potential for some positive effects but uncertain at this stage of appraisal. Likely residual neutral effects.	**0**
11. Soil To protect and conserve soil	Development in this broad location option will predominantly result in the loss of greenfield land with the potential for minor long-term negative effects. Within the broad growth location there is some Grade 1 and Grade 2 best and most versatile agricultural land[208]. it is recognised that there remains an element of uncertainty in the agricultural land classification until lower level site assessments have been completed. Given that the location is greenfield land, development is unlikely to contain or require remediation for any contaminated land.	**-?**

[207] Environment Agency (2016) Flood Map for Planning
[208] Central Bedfordshire Council GIS layers (2017)

12. Biodiversity & Geodiversity To protect, enhance and manage biodiversity & geodiversity	There are no internationally designated biodiversity sites in the growth location, with no likely significant effects. Southill Lake and Woods SSSI, designated for the presence of Broadleaved, Mixed and Yew woodland[209], is located approximately 5.5km to the west of the growth location[210]. Henlow Common and Langford Meadows Local Nature Reserve (LNR) is approximately 2.5km south west of the growth location[211]. The Rivers Ivel and Hiz County Wildlife Site is directly adjacent to Biggleswade[212]. Priority Habitat in the growth location is limited to the small individual blocks of Deciduous Woodland[213]. The Greensand Ridge Nature Improvement Area (NIA) is located a short distance to the north and west of the growth location. The Ivel Valley Biodiversity Network is located to the west of the growth location, and the growth location is within the Ivel River Valley Green Infrastructure (GI) network[214]. Any areas of Priority Habitat and the CWS and LNR sites in the local area should be protected from development. The use of ecological barriers and buffer zones can achieve this and there is mitigation provided through draft Local Plan policy (Nature Conservation) which seeks to ensure that development does not adversely affect designated sites, and draft Local Plan policy (Enhancing Ecological Networks) further seeks to ensure that development positively contributes to biodiversity. Any development in the area could provide enhancements to local biodiversity by creating new areas of habitat and enhancing existing areas. Linking individual areas of Priority Habitat, and undesignated areas of habitat, via ecological corridors with the biodiversity network in the area will promote wildlife movement and improve local biodiversity. The NIA, which is situated to the north and west, could be linked with the GI network and biodiversity network, with benefits for local greenspace and wildlife movement. Overall potential for the employment site to have a minor positive effect on biodiversity, through providing ecological enhancements beneficial to local biodiversity.	+

[209] https://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=s1001492
[210] DEFRA (2016) Magic Map Application- Measured from the growth locations edge to the designated sites edge
[211] Ibid.
[212] Central Bedfordshire GIS Layers (2017)
[213] DEFRA (2016) Magic Map Application
[214] http://www.centralbedfordshire.gov.uk/Images/environmental-framwork-v4_tcm3-14493.pdf

13. Landscape Protect and enhance the landscape and townscape	This growth location is not located adjacent to or within the designated AONB landscape. The growth location is within the Bedfordshire and Cambridgeshire Claylands National Character Area, and the statements of environmental opportunity identify the potential to create high quality green infrastructure (identified against SA Objective 5) and landscape regeneration in new development and the need to protect the aquifers and quality of the River Great Ouse (SA Objective 9 outlines the available mitigation for such effects). Development in this broad location is considered overall to support these objectives with the potential for minor long term positive effects against SA Objective 13.	+
14. Historic Environment To ensure the protection and enhancement of heritage assets, the historic environment and its setting	Heritage Assets in the growth location are limited. Biggleswade has a Conservation Area and Listed Buildings, however these are unlikely to be affected by development due to their location 2km north of the growth location[215], and the residential development located in between. Stratton Park Moated Enclosure Scheduled Monument is a short distance to the east of the growth location[216], but with existing development located in between, development will not affect the setting of the Scheduled Monument. A Listed Building is in the growth location area, and therefore there is the potential for development to affect the setting of the heritage asset. Mitigation may be required to protect the Listed Building and its setting. Draft Local Plan policy (Built Heritage) should ensure development does not lead to any significant effects. There are several Archaeological Notification Areas in the growth location. Development could investigate and record heritage assets of archaeological significance (according with draft Local Plan Policy Archaeology), resulting in increased archaeological knowledge of the local area, however likely neutral effects with some uncertainty at this stage.	0?

Growth Location: Ridgmont, M1 Junction 13
Employment Land/Jobs: up to 1700 new jobs

[215] Stratford Council GIS layers (2017) measured using GIS distances from heritage asset
[216] Stratford Council GIS layers (2017)

SA Objective	Assessment of Effects **Nature of the likely sustainability effect (including positive/negative, short - medium term (5-10 years)/long term (10 - 20 years plus), permanent/temporary, secondary, cumulative and synergistic); Uncertainty**		
1. Housing To ensure that the housing needs of all residents and communities are met	No housing is being proposed as part of this employment growth location. Likely neutral effect.	**0**	
2. Communities To maintain and enhance community and settlement identities	The development of employment land is unlikely to significantly affect the identity of any settlement provided it is not located immediately adjacent to Brogborough. Potential for neutral effects on settlement identity. Green Belt land is located to the south of the broad employment growth location; however, it is assumed that development would avoid any of the designated land. Potential for neutral effects.	**0**	**0**
3. Services & Facilities To improve accessibility to services and facilities[217]	Given the scale of the employment growth location option it is likely that sufficient services and facilities can be provided on site to satisfy the needs of the employees on site, without the need to travel offsite. Despite this, the option is in close proximity to the major settlement of Milton Keynes and smaller settlements Woburn Sands and Aspley Guise which offer a wide range of service and facility provisions. Development at the location is unlikely to lead to any significant effects against this SA Objective.	**0**	
4. Employment To support the	The option will deliver new employment land and jobs to support the economy with the potential for major long term positive effects. The location is adjacent to Ridgmont railway station allowing	**++**	**?**

[217] This relates to the provision of services and facilities, such as schools, healthcare centres, shops, and hospitality (café, restaurant, pub).

economy and ensure that there are suitable opportunities for employment	for increased access. Potential for major long term cumulative positive effects but uncertainty of effects regarding opportunities for nearby town centres.	
5. Health & Equality To improve the health and wellbeing of communities and reduce inequalities	The growth location is not in an area of higher deprivation and thus unlikely to lead to any significant effects. The Environmental Framework[218] identifies this area as located within Marston Vale, a priority corridor of the strategic green infrastructure network. The priority corridor is identified as an area where investment and project delivery can make most impact in securing multi-functional green infrastructure. It is considered therefore that development in this area has the potential to support green infrastructure priorities and have major long-term positive effects against SA Objective 5.	**0** **++**
6. Highways & Air Quality To maintain and improve the existing highway network and reduce associated indirect impacts on air quality and greenhouse gas emissions	Though development of new employment land may generate increased traffic in this area and early transport modelling[219] identifies that infrastructure improvements would be crucial given the level of stress on the strategic routes in this area, this is mitigated to a large degree by its location alongside the railway line, and potential for sustainable transport connections in this respect. Further mitigation is provided through draft Local Plan Policies Strategic Transport Improvements, Mitigation of Transport Impacts on the Network, Connectivity and Accessibility, Development and Public Transport Interchanges and Low Emission Vehicles. Potential overall for a residual neutral effect, however there remains an element of uncertainty until site level assessments have been completed. There is no designated AQMA in close distance and therefore, no significant effects on air quality from traffic indicated at this stage.	**0?**
7. Sustainable Transport To encourage a demonstrable modal shift and reduce the need to travel	The employment growth option is located adjacent to a railway line and Ridgmont railway station. There is significant potential for the creation of sustainable transport connections and to encourage a modal shift with long term positive effects.	**++**

[218] http://www.centralbedfordshire.gov.uk/environment/natural/environmental-framework.aspx
[219] Aecom (2016) for Central Bedfordshire Council. Technical Note Stage 1A Growth Area Analysis

8. Energy & Climate Change To maximise the potential for energy efficiency, reduce greenhouse gas emission and ensure that the built and natural environment and its communities withstand the effects of climate change[220]	Given the potential sustainable transport connections identified against SA Objective 7 it is anticipated that development in this growth location can support a continued reduction in GHG emissions, this is further supported by draft Local Plan policy (Connectivity and Accessibility). It is further anticipated that through compliance with draft Local Plan policy (Successful and Sustainable Places), development could achieve policy targets for energy efficiency, high quality design standards that ensure resilience to the effects of climate change and offer potential opportunities for renewable energy production. Potential for a long term minor positive effect but some uncertainty at this stage.	**+?**
9. Water Resources & Quality To minimise the demand for water and maintain or improve water quality	The Water Cycle Study identifies that this location lies within the Upper Bedford and Ouse catchment, where the main pressure on water resources is the abstraction of water for public supply. Abstraction for consumption is only available for up to 32% of the time and 25% of licenses in the area are time limited and tied to a Common End Date (CED) of March 2028. It is also recognised[221] that one of the most likely effects of climate change to impact upon Central Bedfordshire will be a shortage of water resources. The Ruthamford South Water Resource Zone (WRZ) is predicted to be in supply-demand deficit by 2026/27 as a result of growth and reduced yield. There are no strategic limitations on development growth as Water Companies have a statutory duty to supply water; however, capacity for providing additional supply varies & any new infrastructure requirements have to be aligned with Water Resources Management Plans. The addition of new employment land in this area is therefore considered to have the potential for cumulative effects on water resources but uncertainty until the scale & location is identified and the Water Cycle Study Phase 2 is undertaken. Rivers in the vicinity of the growth location are considered to be in a moderate overall water body class. The majority of watercourses in the Plan area are not currently meeting 'good' classification and the most common reason for this is 'pollution from waste water'. The Water Cycle Study identifies that all WwTWs have some capacity within their existing quality permits to accommodate future development without causing a class of 10% deterioration, however in	**0**

[220] Please note that Flood Risk is considered by the SA within objective number 10
[221] LDA Design (2012) Central Bedfordshire Climate Change Adaptation Evidence Base Final Report

	some settlements the available capacity is quite small, and in some cases development may also require WwTW upgrades. With draft Local Plan Policies on Climate Change & Sustainability, Water Quality and Pollution, strong mitigation measures are in place to ensure at least neutral effects on water quality, and ensure that development supports local WRMPs with high water efficiency targets.	
10. Flood Risk To reduce the risk of flooding from all sources	Though there are areas of flood risk within the location option[222], particularly adjacent to the motorway, in line with draft Local Plan policy (Flood Risk Management) it is expected that development could avoid these areas with the potential for a residual neutral effect. Draft Local Plan policy (Successful and Sustainable Places) requires development to maximise opportunities for Sustainable Drainage Systems, where applicable, and there may be possibilities for enhanced effects to help resolve existing flooding problems with the potential for some positive effects but uncertain at this stage of appraisal. Likely residual neutral effects.	**0**
11. Soil To protect and conserve soil	Development in this broad location option will predominantly result in the loss of greenfield land with the potential for minor long-term negative effects. Some Grade 3 best and most versatile agricultural land (sub-grade 3a or 3b is not known)[223] has been identified within the broad location at this stage[224]; however, it is recognised that there remains an element of uncertainty in the agricultural land classification until lower level site assessments have been completed. Given that the location is greenfield land, development is unlikely to contain or require remediation for any contaminated land, however as it is in close proximity to the motorway and potentially subject to contaminated water runoff this remains uncertain at this stage until lower level assessments have been completed and the precise location is determined.	**-?**
12. Biodiversity & Geodiversity To protect, enhance and	There are no internationally designated biodiversity sites in the broad growth location, and no SSSIs, with no significant negative effects likely.	**+**

[222] Environment Agency (2016) Flood Map for Planning
[223] Central Bedfordshire Council GIS layers (2017)
[224] DEFRA (2016) Magic Map Application

manage biodiversity & geodiversity	Priority Habitat in the broad growth location includes some Lowland Meadows and Deciduous Woodland Priority Habitat to the north, and smaller individual blocks of Deciduous Woodland in the surrounding land[225]. Boughton End Grasslands County Wildlife Site (CWS) is north of the employment growth location[226]. To The south and west there are no designated biodiversity sites. The Greensand Ridge Nature Improvement Area (NIA) is a short distance to the east and south of the growth location. There are several Biodiversity Networks in the area, including the Greensand Scarp Slope to the north and the Milton Keynes Corridor to the south. The growth location is also within the Bedford to Milton Keynes (Marston Vale) Green Infrastructure (GI) Network[227]. The area does not have a high number of biodiversity assets. However, development may have an effect on the local Priority Habitat and CWS through increased recreational use and loss or fragmentation of key habitat. Ecological buffers could be implemented to protect local biodiversity and Priority Habitats, and there is mitigation provided through draft Local Plan policy (Nature Conservation) which seeks to ensure that development does not adversely affect designated sites, and draft Local Plan policy (Enhancing Ecological Networks) further seeks to ensure that development positively contributes to biodiversity. There are a range of opportunities for development at the growth location to provide benefits for local biodiversity. The growth location is within the planned route for the Milton Keynes to Bedford Waterway, which will provide a range of biodiversity benefits for the local area by creating new green and blue corridors and creating new areas of habitat[228]. The growth location is also within the Forest of Marston Vale[229], an environmental regeneration project covering 61 square miles between Milton Keynes and Bedford. Development could link existing habitat areas in the growth location with the local biodiversity networks, the NIA and the proposed Waterway area. This would provide major benefits for the local biodiversity network, and ecological benefits for the NIA and waterway network. There is also the opportunity to create ecological corridors linking undesignated habitats with the biodiversity networks. Overall potential for the employment site to have a minor positive effect on biodiversity, through providing ecological enhancements beneficial to local biodiversity.	

[225] DEFRA (2017) Magic Map Application
[226] Ibid.
[227] http://www.centralbedfordshire.gov.uk/Images/environmental-framwork-v4_tcm3-14493.pdf
[228] http://www.b-mkwaterway.org.uk/vision/
[229] http://marstonvale.org/

13. Landscape Protect and enhance the landscape and townscape	This employment growth location is not located adjacent to or within the designated AONB landscape. The broad location is within the Bedfordshire and Cambridgeshire Claylands National Character Area, and the statements of environmental opportunity identify the potential to create high quality green infrastructure (identified against SA Objective 5) and landscape regeneration in new development and the need to protect the aquifers and quality of the River Great Ouse. Development in this broad location is considered overall to support these objectives with the potential for minor long term positive effects against SA Objective 13.	+
14. Historic Environment To ensure the protection and enhancement of heritage assets, the historic environment and its setting	There are limited heritage assets in the growth location area. The nearest Conservation Areas and Listed Buildings to the south of the junction are approximately 1km away[230]. To the north there are 2 Listed Buildings on either side of the motorway junction, and located approximately 200m north of the motorway[231]. Approximately 1.5km north of the motorway there is also a Scheduled Monument[232]. Development at the growth location may have an effect on the setting of the heritage assets, and therefore mitigation measures may be required. Mitigation is provided through draft Local Plan policy (Built Heritage) which should ensure development does not lead to any significant effects. There are several, small Archaeological Notification Areas in the growth location. Development could investigate and record heritage assets of archaeological significance (according with draft Local Plan Policy Archaeology), resulting in increased archaeological knowledge of the local area, however likely neutral effects with some uncertainty at this stage.	0?

[230] Central Bedfordshire Council GIS Map Layers-Measured form the motorway to the heritage asset
[231] Ibid.
[232] Ibid.